EXHIBIT B

February 14, 2024

United States District Court
for the District of New Jersey

Expert Report of Dr. Josh Pasek, Ph.D.*

* I am an Associate Professor of Communication and Media and Political Science (by Courtesy) at the University of Michigan. This report is written in my personal capacity and does not represent the views of the University or the State of Michigan.

Introduction

1. I am Dr. Josh Pasek, an Associate Professor in the Departments of Communication & Media and Political Science at the University of Michigan. I have expertise in political psychology, survey methodology, statistics, and voter behaviors in elections and have published two books and more than 40 articles in peer reviewed journals on these and related topics.

Assignment

2. I have been retained by Bromberg Law LLC and Weissman & Mintz LLC to provide advice, consultation, and opinions pertinent to my expertise regarding the effect of ballot placement and design laws and practices with respect to New Jersey primary elections.

Summary of opinions

3. My overall opinion in this matter is that the approaches used to assign candidates to particular ballot positions in New Jersey primary elections are expected to influence the behaviors of voters in systematic ways; a strong body of academic literature leads us to expect distinct advantages and disadvantages for candidates based on those ballot placements.
4. It is also my opinion that the system used for bracketing candidates in New Jersey primary elections provides a series of incentives for candidate behaviors that encourage association with other candidates regardless of whether candidates truly share issue

positions or faction membership. Specifically, candidates who bracket with others are likely to receive earlier-listed spots on the ballot and thus to benefit from a primacy effect, where the first-listed candidate tends to perform better.[1]

5. I also conducted and analyzed an original survey experiment where I presented likely Democratic primary voters in New Jersey's 7th and 8th Congressional Districts with ballots that shared features of New Jersey's primary election ballots, but where then-declared candidates for the June 2024 U.S. Senate and House elections were each randomly assigned to the county line and to valid ballot positions. I find that placement on the county line yielded a large benefit for all candidates compared to how those same candidates performed if they were not on the county line.[2] I also find that House candidates gained benefits both from being placed in columns further to the left and from bracketing even if they were not on the line.

6. Compared to office-block ballots, data from the study indicates that party-column style ballots appear to modify respondents' behavior, such that they are much more likely to vote only for candidates who are presented with the slogan of the county party. The effects of county party slogans in office-block and party-column style ballots were distinct, indicating that the weight of the line was not merely an endorsement effect.

[1] In assessing the placement of bracketed candidates in the 2020 and 2021 elections, I find that election officials in New Jersey are placing candidates endorsed by county party leadership in the first column or row more often than would be expected by chance, indicating both a biased practice and a tacit recognition of the effects of candidate placement.

[2] Here and throughout this report, I refer to the "county line," "party line," or "the line" as the column or row of candidates who share a slogan and ballot positioning due to being collectively endorsed by county party leadership; in practice they are collectively listed this way in response to a filing process where the campaigns propose to jointly associate with the county party slogan.

7. Finally, the results of the study revealed that voters completing the party-column style ballot appeared to have a more difficult time completing their ballots than those responding to the office-block ballot, with individuals who encountered that ballot either partially completing it or abandoning the study more frequently.
8. Collectively, these results indicate that the party-column design is liable to bias the behaviors of voters, alter the results of and even, at times, the outcomes of elections, and encourage candidates to behave in particular ways. These results are also highly likely to have an impact on the 2024 primary elections, where the magnitude of differences attributable to primacy and line benefits observed in the study were often larger than the marginal polling differences between candidates.

Qualifications

9. I have an M.A. in Political Science and a Ph.D. in Communication from Stanford University. Since 2011, I have served as Assistant, then Associate Professor with tenure, at the University of Michigan, with appointments in Communication & Media, Political Science, the Center for Political Studies, and the Michigan Institute for Data Science. I am also a Distinguished Research Fellow at the Annenberg Public Policy Center at the University of Pennsylvania.
10. I have published more than 40 academic research articles in leading journals in Political Science, Communication, and Psychology, many of which have been focused on the roles of various cognitive and perceptual biases on election behaviors. I have also published two books on voter behavior in the 2016 and 2020 U.S. Presidential Elections

and am currently working on a third book comparing these two elections. For the 2024 U.S. Presidential Election, I have been asked to chair the committee evaluating the quality of all publicly released pre-election polls for the American Association for Public Opinion Research (AAPOR). Of particular relevance to this case, I have published two studies assessing on the influence of the ordering of candidates' names on election ballots on the votes they received. A copy of my curriculum vita is appended to this report.

11. I am being compensated for this report at my usual rate of $450 per hour up to $17,000. My compensation is in no way contingent on the conclusions reached.
12. I continue to review materials and documents related to this case and reserve the right to supplement this expert report based on additional data that may become available or any additional work that I may be asked to do.

Documents reviewed or created

13. As part of my assignment, I have read publicly filed documents from the Conforti v. Hanlon case, (Civil Action 20-08267(ZNQ)(TJB)), examined a set of sample ballots from across election cycles and counties from New Jersey primary elections, reviewed my own work and that of other scholars on the candidate name order effect, and reviewed the bodies of scholarship on cognitive biases in rendering choices and on the implications of ballot design.
14. In the course of my assignment, I also was responsible for the creation of a number of documents. Most of these documents relate to the design and analysis of a survey

experiment where voters in the New Jersey 7th and 8th Congressional districts were presented with candidates on one of a variety of possible ballot formats and asked who they would vote for. To design the study, I collected names and slogans of candidates in a spreadsheet,[3] wrote an R script to generate sample ballots, and produced pdf versions of all possible party-column style ballots which were used to make the survey. Braun Research, which conducted the study, provided nine (9) files mapping candidates across these ballots, a final dataset from the study, and an email including information about the sampling process. I then wrote a second R script that generated all analyses for this report and exported four (4) files that were used to make the final tables. Finally, there is a spreadsheet where I assessed how county line Senatorial and Gubernatorial candidates in 2020 and 2021 were placed on their ballots.

Background

15. I understand that candidates in New Jersey's primary elections are presented in most counties in a ballot format that groups candidates based on their associations with slogans or party factions ("bracketing") in addition to grouping them based on the office they are seeking.

16. I further understand that the positions of candidates on these ballots are decided upon using a "pivot-point" system, whereby candidates for certain offices, particularly Senatorial and Gubernatorial positions (when those are on the ballot), are used to

[3] These slogans represented best judgements based on campaign materials for what we expect might be used.

determine the placements of other candidates on the ballot and candidate slogans are used to align candidates in similar rows or columns of the ballot.

17. I also understand that the system for placing candidates on the ballot is not entirely consistent in its application across counties, both because there is not a uniform series of pivot-points that are used to place all candidates in a consistent manner and because some candidates have, at times, been paired in a column (or row) with others who did not share their slogans.

18. And I understand that endorsement by a county party committee or its leadership is a common strategy for assigning candidates to a bracket, which generally yields a single column (or row) for which all or nearly all offices are contested in contrast to other columns (or rows), for which many offices may not be contested. This disproportionate contestation across rows (or columns) is termed "the weight of the line."

19. I also understand that unbracketed candidates for offices that are not the primary pivot-point are often placed on the ballot only in columns (or rows) after those that contain pivot-point candidates.

20. Further, I understand that, in some cases, candidates who are not bracketing with pivot-point candidates can be relegated toward the end of the ballot, with white space between those candidates and others vying for the same office, a condition that has been termed "ballot Siberia."

21. It is also my understanding that the law implementing the pivot-point system is either insufficiently clear or insufficiently followed as to what happens after candidates for the pivot-point position (and those bracketing with them) have been placed. Those

determining ballot placement could potentially use sequential pivot points (as appears to be the case from the ballots in Hudson County in 2019 or Passaic County in 2018) or may simply place other office-seekers in the same rows or columns regardless of slogans (as appears to be the case from the ballots in Haddon Township in Camden County in 2019 or Fairfield Township in Essex County in 2017).

22. Similarly, I understand that the use of offices for initial pivot-points are not always consistently followed. For instance, in Ocean County in the Township of Toms River in 2019, council at large appears to have served as the primary pivot-point before a freeholder election and other county positions, whereas Allamuchy Council Members in Warren County in the same year were placed after other positions. Likewise, in Dennis Township in Cape May County in 2018, members of the US House appear to have been used as a secondary pivot-point before freeholders whereas freeholders were used as a secondary pivot-point before US House members among Republicans in the City of Paterson in Passaic County in the same year.[4]
23. And I understand that the ordering of candidates for the pivot-point office should be completely random once a pivot-point has been chosen.

Voters can be influenced by ballot design

24. Studies of ballot design have shown that individuals make decisions that are influenced by what information is available on the ballot, by how that information is organized, and

[4] These patterns can be directly observed by looking at the ballots themselves.

by the ability to successfully understand either what options are available or how their preferences relate to ballot completion behaviors.

25. Evidence that ballot design can influence what choices individuals express is not inherently problematic. Sometimes the act of presenting information on a ballot can serve to make voters' jobs easier. The common practice of placing party labels on the general election ballot is often justified from this perspective (Engstrom and Roberts 2020). For instance, when Minnesota began including party labels for state legislative candidates in 1973, individuals were considerably less likely to omit choices for state senators on their ballots (Schaffner, Streb, and Wright 2001). Voters presumably found it easier to vote when these cues were present.

26. But the effects of ballot design can be biasing even at the same time as they help voters. Minnesota's introduction of partisan labels also led to far lower rates of ticket-splitting between statewide and state legislative offices (Ansolabehere 2006; Schaffner, Streb, and Wright 2001). Similar results emerged from states that enabled voters to select a straight-party ticket option, which simultaneously increased ballot completion rates and decreased split-ticket voting (Engstrom and Roberts 2020). And in states where judicial elections are partisan, voters appear to be less likely to select candidates that the American Bar Association has deemed "highly qualified" (Lim and Snyder 2015). In these contexts, cues are making it easier for voters to make decisions while simultaneously encouraging voters to make different decisions from those they might otherwise make.

27. Yet many of the cues that have been shown to influence voters have far less substantive value than partisanship. A large body of literature (which I review below) has shown

that individuals are predisposed to selecting the first name listed on the ballot for any given office. This influence, termed the "candidate name order effect," yields a bonus for earlier-listed candidates compared to their rivals, a form of "primacy effect." In many cases, however, being listed first tells us nothing about candidate quality and hence this sort of benefit only serves to distort voters' preferences.

28. Another example of pernicious ballot design emerges when voters misunderstand the ballot itself. This was the case with the famous butterfly ballot in Palm Beach County Florida in 2000, where many voters appear to have miscast their ballots when they misunderstood which candidates were associated with which hole punch placements (Agresti and Presnell 2002; Wand et al. 2001). Researchers were able to identify misvoting by showing that the number of votes cast for Buchanan and Gore diverged more from votes for other offices in Palm Beach County than did those same candidates in other counties (Agresti and Presnell 2001). They also showed a clear pattern of overvoting, where individuals attempted to vote for both Buchanan and Gore in ways that indicated a misunderstanding (Herron and Sekhon 2003).
29. Broadly construed, the impacts of ballot design decisions fall into two categories: those that tend to nudge voters toward particular choices and those that tend to confuse voters and result in voter errors (see Niemi and Herrnson 2003).

Assessing the impacts of ballot design decisions

30. The net impacts of ballot design decisions depend not only on whether a particular design feature introduces bias, but also whether that bias is likely to alter the results of

elections. To answer this question, we need to know two things: how large the bias is and how consistent the bias is in the errors it introduces. Because elections are often decided by small margins, even a small bias can be consequential if it appears consistently. And biases are only likely to be fully negated if procedures are designed to neutralize them.

31. Ideally, our best estimate of the magnitude of a particular design decision comes when otherwise identical voters in the same election are exposed to different ballots. When this happens, we can compare the behaviors of voters exposed to one version with those exposed to another and the difference in behaviors across versions reflects the influence of the design.

32. In the context of candidate name order effects, there are some states where the order of names is either randomized or rotated across many districts, allowing us to precisely estimate the effects. Since Miller and Krosnick's (1998) foundational work on the topic highlight the importance of these procedures, studies focusing on these sorts of randomization have overwhelmingly found that candidates who are listed in earlier positions within their contests on the ballot tend to receive more votes than those listed later.

33. To assess the impacts of some other ballot biases, we need to compare voter behavior across different contexts (either different elections or places with differently designed ballots) to estimate the effects. In these situations, the more elections we have, the more precise our estimates, though there is always a risk that the differences we observe may be related to the reasons that different contexts employ different designs.

34. Perniciously, actors can actually make it more difficult to diagnose the magnitude of ballot biases by conflating political considerations with ballot designs. If it is difficult to disentangle the impact of the political reasons that a candidate is in a particular position from the impact of being in that position, election data alone may not be sufficient to identify how large a bias is or even whether it exists. By this mechanism, the worst cases of ballot design can sometimes render themselves inaccessible to purely observational social scientific methods and scientists need to use additional tools at their disposal to discern the effects.

35. This leads to a third effective strategy for identifying ballot biases, which uses controlled experiments. In a controlled experiment, voters are randomly presented with various possible ballot designs in a simulated environment. By comparing the behaviors of voters across different design possibilities, we can estimate the impact of design in ways that ensure that our estimates are independent of the reasons that those designs were adopted in the first place.

36. Finally, the impacts of design-based biases on ballots can be gleaned by looking at proximal cases. That is, we can observe whether similar features have the purported effects in other places. Because the impacts of ballot design are psychological in nature—that is they play off how people process and use information—other contexts where similar choices are made can be a strong basis for inferring likely biases. This can include other jurisdictions where similar design decisions were employed as well as alternate contexts, such as surveys, where broad populations are presented with similar choices.

37. Notably, to assert that a psychological effect does not exist in a particular context requires not just that its proponents show that the context is different, but also that this difference in context is sufficient to mitigate the underlying psychology. Expecting something different from broadly observed patterns thus requires more than throwing spaghetti-against-the-wall by noting tiny features of ballots that differ between contexts. Instead, any differing expectation requires a compelling explanation for why the effects observed would be different across circumstances.

The ordering of candidate names confers a significant benefit upon earlier-listed candidates and serves as a well-studied example of ballot design effects

38. One of the most prominent examples of ballot design effects is that of candidate name ordering. Candidates who are listed earlier on a ballot, and particularly in the first position, perform better than candidates listed later. Miller and Krosnick (1998) summarized the work of 24 prior studies of name order effects in their foundational paper on the topic, but while they noted that most had found a first position benefit—known as a "primacy effect"—they also expressed concern that the vast majority had relied on observational studies, where other factors like alphabetical placement of candidates were conflated with candidate ordering. Conducting their own analysis of rotated candidate placements across precincts in Ohio elections, they found a consistent positive influence of being listed earlier on the ballot.

39. Since Miller and Krosnick's (1998) foundational work on the topic, dozens of additional studies have overwhelmingly found that candidates listed in earlier positions within

their contests on the ballot tend to receive more votes than those listed later, providing further evidence for the primacy effect.[5]

40. This effect can be clearly identified when comparing the performance of first-listed candidates with those listed later under two scenarios: when the order for all candidates in an election is determined using a single random draw or when the ordering of candidates is randomly or quasi-randomly varied across election districts. Notably, studies that do not vary names across districts need to compare effects across multiple contests, whereas studies leveraging the presence of variability (and ideally randomization) in candidate name order across ballots within an election can sometimes also assess whether individual candidates who were sometimes positioned earlier and sometimes later received more votes when positioned earlier.

41. In studies that leverage random or quasi-random procedures for varying candidates across ballot positions, primacy effects are pervasive. Evidence of benefits for candidates listed first on the ballot has been shown across the United States in elections in California (Pasek et al. 2014), Florida (Krosnick 2019), Illinois (Brockington 2003), New Hampshire (MacInnis et al. 2021), New York (Koppell and Steen 2004), Ohio (Miller and Krosnick 1998), Texas (Grant 2017), North Dakota (Chen et al. 2014), Vermont (Stewart et al. 2008), and Wyoming (Grant 2022).

[5] There is also some evidence that individuals listed last on office-block ballots do slightly better than those listed in middling positions, though the advantage to being listed last is smaller than that of being listed early on the ballot. For a detailed analysis of how candidates fare across positions, see the Online Supplemental Materials at Public Opinion Quarterly associated with Pasek et al., 2014.

42. Similarly, international evidence of name order effects can be found in contests in Australia (King and Leigh 2009), Belgium (Geys and Heyndels 2003; Van Erkel and Thijssen 2016), Canada (Kilgour, Grégoire, and Foley 2020; Tessier and Blanchet 2018), Chile (Morales Quiroga and Becerra 2018), Colombia (Gulzar, Robinson, and Ruiz 2022), the Czech Republic (Marcinkiewicz and Stegmaier 2015), Denmark (Blom-Hansen et al. 2016), Finland (Söderlund, Von Schoultz, and Papageorgiou 2021), Germany (Faas and Schoen 2006; Jankowski and Frank 2022; Marcinkiewicz and Jankowski 2014), Ireland (Regan 2012), Malta (Ortega Villodres 2008), Mauritius (Hosenally and Auchoybur 2014), Poland (Flis and Kaminski 2022; Marcinkiewicz 2014), South Korea (Jun and Min 2017), Spain (Bagues and Esteve-Volart 2011), Switzerland (Lutz 2010), and the United Kingdom (Webber et al. 2014; Wood et al. 2011) among other locales.

43. The consistent presence of the name order effect across elections is clear from the wide variety of contexts in which these effects have been demonstrated. Studies of name order have found that primacy benefits are conferred in both primary and general elections, in partisan and nonpartisan races, in elections for single-member districts and multi-member districts, in run-off elections, and even in elections for referenda (though technically, these should be termed choice order effects).

44. In contrast to the more than four dozen studies finding significant order effects, there are only four recent (post-2000) studies I can point to where name order effects were assessed, but not clearly demonstrated: a study by Alvarez, Sinclair, and Hasen in 2006, a partial result in a study by Ho and Imai in 2008, work by Hansen and Olsen in 2014, and a paper by Madsen and Fine in 2006.

45. The first two studies (Alvarez, Sinclair, and Hasen 2006; Ho and Imai 2008) failed to find name order effects when looking at a single context: statewide general elections in California. But as my colleagues and I showed extensively in our 2014 study, the analyses they ran obscured real order effects that were indeed present in those same elections. Specifically, these studies focused on individual contests in California, where the system for assigning name order was not fully randomized and happened to correlate with district attributes (Pasek et al. 2014). When analyses were conducted across contests (instead of separately within each contest) or when district differences were accounted for, the order effects that these researchers did not initially find proved not only present, but of a magnitude similar to that of other studies.[6] Put simply, then, these studies do not provide evidence of a lack of a name order effect, but instead of a failure of one set of methods to detect that effect in a particular set of circumstances.
46. The study by Hansen and Olsen (2014) did not find name order effects for a rather unusual election in Afghanistan. As they note, "extreme levels of electoral violence in Afghanistan should lead to a high level of effort and a low level of ambivalence for the average voter selecting into turnout" (p.3). Voters were also making a choice for a single candidate in a single contest, leading to a ballot where it was impossible for them to encounter other contests that they had not expected to participate in. This election thereby eluded many of the bases on which an order effect might be expected. Given

[6] As we note in our paper, there were also errors in the datasets used by these authors that likely reduced the apparent influence of name order.

these circumstances, is unclear whether the 2010 Afghani Parliamentary election would be expected to form a strong basis for effects in New Jersey.

47. Finally, the lack of evidence in the paper by Matson and Fine (2006) may be explained by an inadvertent confound. The authors simultaneously examined name order effects and the number of candidates running for each office in the same model. Since candidate position and the number of candidates running are closely related, the statistically significant negative coefficient for the number of candidates running may have accounted for the benefits of being listed earlier. Hence, the lack of an independently significant name order effect may be due to a combination of multicollinearity and a coding issue. To ascertain whether the Matson and Fine study should be treated as a single example of a non-effect or what is referred to as a statistical artifact, I corresponded with the authors of this paper to see if the original data on which they made their conclusions was available; unfortunately, they reported that they no longer had access to the dataset, meaning that this could not be adjudicated.

48. To sum up the body of evidence on the matter, Hisenkamp and Colleagues (2020) have been conducting a meta-analysis of the performance of all candidates that were assigned to multiple ballot positions across ballots in both published and unpublished studies of name order. Across 1,054 candidates for whom position assignment was sufficiently randomized to analyze, they found that 82.7% of candidates performed best when listed in the first position. Given that many candidates were randomized or rotated across only a few districts, it stands to reason that many of the candidates who

performed better in other positions likely did so because differences between districts were larger than the primacy effect, not because these other positions provided some alternate benefit.

49. The literature on candidate name order effects is clear: first billing overwhelmingly helps candidates.

New Jersey's system for placing candidates on the ballot means that candidates who bracket with other candidates are more likely than unbracketed candidates to get a preferential ballot position; candidates are thereby incentivized to bracket together

50. When counties in New Jersey organize primary ballots based on bracketing, candidates who bracket with a candidate vying for the pivot-point position are the only ones who can end up on the leftmost column (or top row) of the ballot.
51. Candidates who wish to ensure that they are eligible for the leftmost (or top) positions are thereby incentivized to bracket together with a candidate running for the pivot-point position. When the pivot-point office is known and candidates are aware of which office it will be, candidates are thereby incentivized to bracket with one of the candidates running for that office.
52. Running with a pivot-point candidate can be expected to deliver a material benefit for candidates, in the form of placement toward the left (or top) of the ballot, which in turn is expected to yield extra votes due to the primacy effect.
53. The advantage of running with a pivot-point candidate can be shown mathematically. If we define the number of candidates competing for the pivot-point as γ, a candidate for

a different office who brackets with a candidate running for the pivot-point office will have a 1/γ chance of receiving first position, a 1/γ chance of receiving each of the first other (γ-1) positions, and no chance of getting a placement position higher than γ. The average expected placement for a candidate bracketed with a pivot-point office is equal to the mean of the values from 1 to γ or (γ-1)/2. In contrast, candidates who are not running with a pivot-point candidate have zero likelihood of getting a placement position lower than γ+1 and in many circumstances would find themselves considerably to the right of or below these choice positions.

54. The positions unbracketed candidates who are not running for the pivot-point office may find themselves in will depend on the range of positions open to candidates for that office. Generally, the range of potential positions for such candidates would be from γ+1 to k, where k is the total number of columns (or rows) containing candidates. An unbracketed candidate's expected position would be the mean of the values of unbracketed candidates for that office. For example, if 3 candidates were running for the pivot-point position with 6 columns on the ballot, an unbracketed candidate for a non-pivot point office would be expected to end up in the 5th column on average.[7] There is no way they could end up in the first three columns, of course, because those columns are reserved for candidates who bracket with a pivot-point candidate.

55. The positional benefit from bracketing with a pivot-point candidate versus remaining unbracketed would typically then equal the difference between the average placement

[7] The mean is calculated as ((γ+1)+k)/2 or here: (4+6)/2 = 5. Of course, this is a simplification that applies only if candidates are not placed following multiple pivot-point positions, where they might find themselves even further to the right of (or below) the other candidates running for the same office.

of the bracketed candidate and the average placement of the unbracketed candidate. Hence, in the aforementioned example, the expected benefit would be 3 positions on the ballot, as a typical bracketed candidate, on average, would be expected to place around the second position, and an unbracketed candidate would be expected to place around the 5th position.

56. Inconsistencies in how pivot-points are used and how unbracketed candidates are placed on the ballot result in incentives for all candidates to bracket together as frequently as possible. Because unbracketed candidates are deprioritized for all placement strategies, bracketing with candidates for other offices can never hurt a candidate's ballot placement and can often result in placements toward the top (or right). Hence, it does not matter exactly how a county clerk might decide to place candidates for this benefit to accrue.

57. When candidates are uncertain about which office will be used as the pivot-point or when different pivot-points are employed across different counties, candidates aiming for preferential ballot placements are incentivized to bracket with candidates for as many other offices as possible, to maximize the likelihood that they are bracketed with someone in a pivot-point office.

58. When candidates are unable or unwilling to bracket with a candidate for the pivot-point position, the goals of obtaining positions toward the left side (or top) of the ballot and avoiding "ballot Siberia" still incentivize them to bracket with candidates for as many other offices as possible. This is the case both because there often appears to be a secondary pivot-point, it is frequently unclear what the secondary pivot-point will be,

and the sequence of secondary pivot-points appears to be inconsistent. Candidates seeking preferential ballot positioning will therefore want to ensure that they are bracketed with any other potential pivot-points to have the best hope of bracketing with someone in whatever office happens to be used as the secondary pivot-point.

59. Failing to bracket with others limits the earliest non-pivot-point candidates can be listed on the ballot, making it particularly likely that they will end up placed to the right of (or below) other candidates in that same contest who did bracket with candidates for other offices.

60. Depending on the collection of candidates running for other contests and how other candidates are bracketing, the decision not to bracket can also force candidates into "ballot Siberia," where they are visually disconnected from other candidates running for the same position.

61. Collectively, then, the strategy of placing bracketed candidates together on the ballot provides a series of clear incentives for individuals running for office. Candidates who want to occupy positions on the ballot where they are likely to benefit from the primacy effect (and/or who want to avoid the potential disadvantages of ballot gaps, ballot Siberia, or being stacked in a column with other candidates with whom they are not associated) are encouraged to bracket rather than to run on their own. And this incentive to bracket together is present regardless of whether candidates who share a bracket occupy similar factions of the party or whether they share similar views on issues.

62. So although bracketing may be ostensibly designed to "permit[] candidates to appear together on the ballot through exercise of their right of association and allow[] voters to understand those associations," as the Attorney General asserted in Hanlon v. Conforti (Grewal 2021, 21), candidates desiring a favorable ballot position are incentivized to form associations with other candidates for the purpose of jockeying for position rather than merely for demonstrating some underlying commonality.
63. Because New Jersey primary ballot design incentivizes bracketing with other candidates, voters cannot reliably presume that candidates who are bracketing together are doing so for any reason beyond the desire to win their respective elections.
64. To the extent that voters are interpreting ballot placement as a form of reciprocal endorsement, this incentive could even result in a form of compelled speech by the candidates. Candidates, worried about the positional implications of not bracketing, may decide to run under slogans they would not otherwise adopt.

Candidates endorsed by county party committees or leadership in New Jersey elections are placed in the first column more often than would be expected by chance, indicating not only that those designing the ballots tacitly recognize the primacy bias, but also that they are using this bias in favor of endorsed candidates

65. The pivot-point strategy used for assigning placements in New Jersey elections ensures that only candidates running for the pivot-point office and those running with them are eligible for spots toward the left side (or top) of the ballot. To understand how these positions are used in practice, I examined the placement of candidates in each county

for the primary elections for U.S. Senate in 2020 and for Governor in 2021. The use of these offices as pivot-points is implied by how the offices are mentioned in New Jersey code (NJSA 19:23-26.1) and it is clear from examining ballots that most counties did indeed use these offices as the primary pivot-points.[8]

66. Excluding cases where Senatorial and Gubernatorial elections were not used as a pivot-point and ballots that were organized in an office-block style, there were 14 counties where individuals were casting votes for Democratic Senatorial candidates in 2020, 14 where individuals were casting votes for Republican Senatorial candidates in 2020, and 18 where individuals were casting votes for Republican Gubernatorial candidates in 2021. I do not consider the placement of Democratic Gubernatorial candidates in 2021 for this analysis as this race was not contested.

67. Using these data, we can examine how often the Senatorial and Gubernatorial candidates associated with the county line were placed in the first position versus in other positions. Because there were two (2) Democrats running for Senator in 2020, an appropriate implementation of the pivot-point system should place each candidate in the first position about half the time. The five (5) Republicans running for Senator in

[8] We can often discern which counties used these offices as primary pivot-points by looking at the ballots across the Democratic and Republican primaries. The Bergen County ballot in 2020, for instance, has the line on the left side for the Democrats but only a single Republican Senator in the leftmost column, with the line in column 3. Since there is a candidate for every office on the Republican side, we can be certain that Senate was used. These patterns make it clear that Senate was used as the primary pivot point in at least 9 counties in 2020, suggest that President was used in Atlantic County, and do not indicate that any other offices were ever used. For the 2021 ballots, we can be sure that at least 8 counties used Governor as the primary pivot-point and again only Atlantic County clearly strayed from this pattern, apparently using county clerk as the pivot-point. The data do not indicate that any other counties used alternate pivot-points. In addition to excluding Atlantic County from these analyses, we also excluded the Republican primary ballot in Morris County and Democratic primary ballot in Somerset County in 2020, as these did not follow New Jersey placement rules (Morris County because the Republican Senate candidates were all in the same column and Somerset County because a single consistent pivot-point was not used).

2020 should each find themselves in first position around 20% the time. And the four (4) Republicans running for Governor in 2021 should each garner the first position approximately one quarter of the time. Evidence that the county line occupied the first position much more frequently than this would imply that candidates on the line are being placed in a privileged position more often than would be expected.

68. Indeed, there appears to be a considerable bias in favor of placing the county line in the first position. Across all three elections, we would expect that candidates on the county line should be placed in the first and second positions about 14 times each, in the third and fourth positions around 7 times, and in the fifth position around 3 times. Instead, we find that the county line is in the first position on 24 of the 46 total ballots. If the placement of the county line was consistently assigned using the randomized procedure outlined in New Jersey law based on Senatorial and Gubernatorial candidates when possible, we would expect the county line to be first this frequently around 2 in 1000 times.[9] Put simply, the county line was in first position far more frequently than it should have been if the placement rules (based on a random draw of Senate or Gubernatorial candidates) were being followed as expected.

69. County clerks may be able to ensure that the county line is in the first column (or row) by treating as the pivot-point office some position that is only present among

[9] For Democratic contests in 2020, 10 of 14 ballots placed the line in the first position. For Republican contests in 2020, 4 of 14 were in the first position. And for Republican contests in 2021, 10 of 18 were in the first position. Given the number of candidates in each office, if line placement were unbiased, we would expect the line to be in the first position on the ballot for an average of 14.3 ballots (7 for Dem 2020, 2.8 for Rep 2020, and 4.5 for Rep 2021). The p-value is based on a χ^2 test comparing the observed 24 ballots in the first position against the expected 14.3 ballots in this position and the observed 22 ballots across all other positions against the expected 31.7 ballots. This test yielded a χ^2 value of 9.55 with 1 degree of freedom and a one-tailed p value of .002.

candidates on the line. And this could perhaps explain the choice of President as the pivot-point in Atlantic County (which was excluded from the analysis above), as this was the only county where neither senatorial candidate was listed on the Democratic ballot's county line. Nonetheless, the tendency to do so is telling, as it suggests that at least some county clerks are willing to manipulate the rules to place the county line first and that they do indeed see first position as beneficial.

Why do order effects occur?

70. Across studies, the magnitude of candidate name order effect has been shown to vary depending on the type of election that candidates are running in, the office they are running for, the placement of that office on the ballot, the number of candidates on the ballot, and the presence of candidate-related cues on the ballot. This is consistent with the notion that voters who are not particularly committed to one candidate or another for any given office are "nudged" by the design of the ballot to select earlier-listed candidates over those listed later (Engstrom and Roberts 2020).
71. One of the key mechanisms thought to underly order effects is a process known as satisficing. Satisficing occurs when people either find themselves unwilling or unable to do a task in an ideal way and resort to suboptimal approaches that may help them accomplish that task at lower effort (Krosnick 1991). Rather than consider all the information in front of them, voters may consider each name sequentially until one seems good enough or may just pick names near the beginning with the goal of selecting some candidate for the office (Däubler and Rudolph 2020).

72. The impact of satisficing, in line with results on candidate name order biases, is projected to be largest when individuals either have difficulty choosing among the candidates in a contest or are otherwise less motivated to vote in it. Indeed, voters appear to more frequently select the first name in contests where many are likely to lack information about candidates (e.g., in contests for lower-level offices), when the motivation to vote in a contest is lower (e.g., when one candidate is heavily favored), or when the difficulty of finding preferred candidates is relatively high (e.g., when the ballot is very long; Brockington 2003).

73. Name order effects have been shown to be larger in primary elections than in general elections, for local offices than for statewide or national ones, for down-ballot contests than for top-of-the-ticket races, and for nonpartisan elections than for partisan elections.[10] These correspond with situations where individuals may have less distinguishing information about the candidates running and where the ballot typically provides few cues that help voters decide. Indeed, in experimental studies, when individuals are provided with more information about hypothetical candidates, they are less likely to rely on name order (Kim, Krosnick, and Casasanto 2015).

74. Another condition where name order tends to be particularly impactful is when large numbers of candidates are competing for the same position. When ballots contain dozens of names or span multiple pages, voters seem to disproportionately make their

[10] In well-publicized competitive partisan general elections for President, for instance, name order effects tend to be modest, on the order of a third of a percentage point (Pasek et al. 2014). In contrast, for primary elections and for general elections for statewide nonpartisan offices, effects frequently average three percentage points or more (Koppell and Steen 2004).

choices from among the first-listed candidates (see e.g., Ho and Imai 2006). Here, the mechanism seems likely to hinge on a third key feature of satisficing, which contends that the process should be more common when the task is particularly difficult or effortful (Krosnick 1991; Roberts et al. 2019).

75. Collectively then, when voters lack awareness about the candidates, do not have other ballot cues to make distinctions, or find the process of voting onerous (as may occur, for example, when an unprepared voter moved to New Jersey and had to figure out not only whom to elect for freeholder or county commissioner, but also what one does), they appear to be most influenced by the ordering of names.

Name order Is extremely likely to constitute a substantial bias in New Jersey's primary elections

76. In line with the notion that individuals are satisficing when they are nudged by primacy, primary elections with several candidates present ideal conditions for this sort of bias. This is because primary candidates for an office are often similar in their policy positions and the most valuable low information cue for selecting candidates — political partisanship — is not useful. Indeed, some of the larger name order effects have been found in these elections (Koppell and Steen 2004).
77. In addition to lacking partisan cues, primary ballots also often feature candidates whose name recognition is often not particularly high and can feature a larger number of candidates than may be typical in a general election. When voters are confronted with a larger number of candidates or candidates who are more difficult to distinguish, voting

becomes a more difficult task and hence voters are more likely to satisfice, leading us to expect a larger name order effect.

78. The apparent universality of the name order effect means that we have every reason to expect that these sorts of effects occur in New Jersey elections and that they should be of a comparable magnitude to the states and municipalities where similar biases were previously identified.

79. New Jersey's system for placing names on the primary ballot gives candidates a way to jockey for primacy biases for most offices. The only context where this is not true is for candidates running for the pivot-point office. All other candidates will receive earlier positions for bracketing with pivot-point candidate and later positions as a consequence of failing to do so. The state then rewards the candidates who have bracketed with the pivot-point office by giving them a chance at the first column and prohibits unbracketed candidates from a chance at these same benefits.

80. Primacy biases are also likely to influence the performance of candidates for the pivot-point position, as even this is randomized only at the county level. That means that while the state is not selecting particular winners and losers in the ballot design process for these offices, it is allowing ballot design to confer a sizable random advantage upon an arbitrary candidate in each county. In county-level contests or those where many of the voters are in a few counties, the name order effect is unlikely to be offset by differing randomizations in different counties.

81. Primacy biases in New Jersey elections will always negatively impact candidates who do not bracket with a candidate for the pivot-point position, as these candidates are

guaranteed to be placed in positions further to the right of (or below) colleagues who are bracketed with someone in the pivot-point position. Thus, expectations of primacy biases should always result in an encouragement to bracket with others.

Other similar cognitive biases can also nudge voters

82. When individuals are unable or unmotivated to make a selection at a particular choice point, they often find a way to choose anyway. Sometimes people use heuristics or low-information cues as a shortcut to reach conclusions and at other points they engage in satisficing strategies that do not leverage information. These processes regularly result in circumstances where the distributions of responses that people provide do not match the choices they would make if they were better able and motivated to make choices.

83. When individuals are using heuristics, the question of how often heuristics yield deleterious choices depends on the quality of the shortcuts employed. Sometimes high-quality informational shortcuts result in people making accurate assessments and efficient choices. For instance, knowing a candidate's political partisanship is often a good way to guess at their stance on an issue like abortion. For occasional candidates, however, this will not yield accurate conclusions, single-issue voters may be misled, and the results of a vote based on partisanship alone could fail to reflect voters' preferences. In other circumstances, heuristics may be uninformative. For instance, voters appear to select candidates in part based on their appearance, which is not particularly telling either about the political viewpoints they hold or how they will perform in office (Lau and Redlawsk 2001).

84. When individuals are simply trying to provide a "good enough" response to a choice point, they frequently answer in ways that quite apparently have nothing to do with the decision being made. These sorts of processes are well evidenced in survey questions, where attempts to satisfice often result in what is termed a "response-style bias" (Roberts 2016). Such biases include the primacy effect, but also a variety of other patterns of responding to questions such as choosing at random, habitually saying "yes" to yes-no questions (known as acquiescing), using "don't know" responses, or repeatedly choosing the same answer for each question (a process known as straightlining).

85. On an election ballot, the implications of uninformative heuristics and satisficing can range from neutral to highly deleterious. When some voters are choosing candidates at random, the net effect of their votes will be to reduce the differences between candidate vote shares but not to influence which candidates will perform better or worse. In contrast, the net effects of acquiescing on ballot questions can result in referenda that disproportionately pass even when voters cannot make heads or tails of referendum content (Cozza, Elkins, and Hudson 2021).

86. The design of a ballot has the potential to nudge voters toward using particular heuristic and response style strategies in the face of ambivalence or uncertainty. For instance, the presence of information about judicial partisanship is on the ballot in some states where in other states the partisan orientations of judges are not shown. Where judicial elections are coupled with partisan cues, voters are presumably more easily able to use partisanship as a tool for deciding which justices they should vote for and votes for

judges follow party voting patterns more closely. Irrespective of whether use of partisan cues are normatively good or bad, their use also has implications for what else voters focus on. In states with partisan judicial elections, American Bar Association ratings of whether judges are qualified or not tend to be less consequential in predicting candidate performance (Lim and Snyder 2015). Hence, to the extent that voters can rely on the "easy" cue of partisanship, they may eschew other bases for evaluation.

87. Decisions about whether and how to design ballots necessarily constitute decisions about how voters should or should not be nudged. When partisanship information is present, voters will tend to use it. This is even more strongly the case if the ballot is organized to make it easier to behave in a consistent partisan way by, for instance, allowing voters to use a single column or row to select candidates for all offices from a particular party (Engstrom and Roberts 2020). Straight party voting options encourage even more consistent partisan voting, reducing the extent to which voters include any members of other parties on their ballots (Bonneau and Loepp 2014).

88. Party-column and party-row ballots have been shown to nudge voters toward selecting candidates in a single column (or row). The effect of this format may stem from a combination of both heuristics and response styles. Party-columns provide an easy and potentially meaningful heuristic for voting for candidates with particular views and goals in office. At the same time, the design of the ballot enables straightlining behaviors on the part of respondents that are simply not possible when using office-block ballots. Thus, the influence of a party-column style ballot combines an informative cue with a design that may introduce significant bias even among those who lack information.

89. In the literature, the decision to use these sorts of ballots has largely been examined in the context of general elections. There, the implication of party-column formatting has been consistently associated with a reduction in split-ticket voting (Calvo, Escolar, and Pomares 2009; Reynolds and McCormick 1986). That is, people see the line and they follow it, even if they might make a different decision if they were spending the time to evaluate each candidate individually.

90. When deciding whether to use party-column ballots or office-block ballots in general elections, an ideal voting system would presumably weigh the value of any substantive cue in helping people vote against the potential for bias.

91. Because partisan ballots conflate party cues with the tendency to vote for candidates in a single column, evidence that voters disproportionately select candidates from particular columns is merely a recognition that a particular choice architecture has an effect. It does not, in and of itself, tell us the extent to which ballot design is introducing a bias (nor, for that matter, does it tell us how effectively voters are using any substantive cues provided). And unfortunately, there is not sufficient variation in this sort of ballot design to discern whether the partisan cue or the ballot layout is leading to voters' straightlining behavior; those who share a party affiliation are always placed into the same columns when party-column ballots are used in general elections.[11]

92. Evidence of the cognitive effects of this sort of layout, however, are apparent from other sources. In particular, a large literature on survey design cautions against the use

[11] In the context of a primary election, spreading voters across columns might even imply that they do not share a party affiliation even though all candidates in New Jersey's Democratic primary must be Democrats and all candidates in the Republican primary must be Republicans.

of so-called "grid" questions, where multiple items with the same response options are placed in a matrix. When individuals are randomly assigned either to answer questions in a grid or are asked those same questions when presented separately, researchers find that individuals filling out grid questions tend to select the same option more often (Roßmann, Gummer, and Silber 2018). They are also more likely to provide the same response when considering questions about opposing concepts, meaning that their answers are not just more consistent, but also less valid (Silber, Roßmann, and Gummer 2018; Vehovar, Couper, and Čehovin 2023). These behaviors indicate that straightlining constitutes a convenient satisficing strategy.

93. The tendency to simply proceed down the column when completing party-column ballots is likely to at least partially reflect voters satisficing as they encounter contests about which they are ambivalent or that they have not considered. What we know about survey straightlining thus suggests that many voters are likely to continue voting down the line even when they do have a meaningful preference between the candidates, because it gives them an easy way to make a seemingly acceptable choice (Y. Kim et al. 2019). Unfortunately, the collective influence of this behavior would be expected to assist candidates who share a column with other candidates over those who do not irrespective of what voters' truly informed preferences might be.

The design of New Jersey primary ballots renders results susceptible to additional nudging biases

94. New Jersey primary ballots emulate the design of the party-column general election ballot in placing candidates. This means that the ballot structure as currently implemented is accepting the use of columns (or rows) as a guiding cue for voters. In practice, then, just as a party-column general election ballot reflects a state endorsement not only of the use of party labels as a voting cue, but of the tendency to use those labels as a way to decide which column to focus on, the party-style ballot used in New Jersey reflects a decision to use the combination of party leadership endorsement, bracketing, and the presence of a clear line as a guiding cue for voters.

95. But what kind of information is provided by bracketing, and are voters interpreting this cue in line with the incentives candidates have for bracketing with others? Here the question is somewhat murky. To the extent that candidates are seeking their associations with others for the purpose of expressing some sort of mutual solidarity, there is a case to be made that some of what voters are choosing on is likely to be substantive. But if candidates feel compelled to bracket with others to avoid running as an unbracketed candidate or because they are seeking a more favorable ballot position, then the state is incentivizing candidate behavior that can explicitly mislead voters.

96. In primary elections, the case for the party-column ballot is far less compelling than in general elections. In contrast to within-party brackets and county-party-leadership endorsed candidates, parties are true mutually associative groups that have substantive meaning for voters and of which candidates typically must be members. That Dr. Rubin can identify situations where the same candidates are bracketed with different people across contests belies the notion that within-party factions have the same level of

meaning or stability as parties themselves (Rubin 2023). At the same time, voters are also less likely to be aware of distinctions within parties than distinctions between parties. Hence, it does seems clear that party factions do not share the value of party distinctions as a ballot cue.

Ballot design can also serve to confuse voters, leading to errors that preventing voters from casting valid votes for their preferred candidates

97. A number of studies have also focused on ballot design decisions that lead voters to fail to recognize either how they should complete their ballots, which candidates are competing against which other candidates for a particular office, or even which candidates are competing at all. These sorts of design decisions serve to confuse voters and induce voter errors.

98. The Butterfly Ballot in Palm Beach County Florida in 2000 is one example of a confusing ballot design that led to votes cast that did not match voters' intentions. Voters appeared to be unsure if they were supposed to vote for the second-listed candidate using the second hole on the ballot or the hole that corresponded with the arrow near that candidate's name (Wand et al. 2001). Similarly, many voters in that county appeared to overvote for President—punching two holes for the same office and thereby rendering their vote invalid—because they thought that the presence of multiple holes near each ballot meant that they were supposed to indicate support for both Presidential and Vice-Presidential nominees (Agresti and Presnell 2002). In other

counties, where only a single slot could be indicated for the presidential race, no such errors were possible.

99. The net effect of the Butterfly Ballot was to functionally depress the number of votes in Palm Beach County, to do so in a way that disproportionately affected the Democratic nominee,[12] and to change the fate of the entire nation, as the number of votes implicated in these errors was many times larger than the Bush's margin of victory in what happened to be the pivotal state (Wand et al. 2001).

100. The confusion induced by the Butterfly Ballot may have been particularly egregious in its consequences, but it is not the only example. In some cases, candidates for a single office have been presented across multiple columns or even separate pages of a ballot in some jurisdictions but not others. When confronted with these presentations, voters often invalidate their ballots by overvoting where this behavior is not prohibited by design (Norden, Quesenbery, and Kimball 2012). They also sometimes fail to even consider contenders who fall onto subsequent columns or pages of the ballot (Cottrell et al. 2022; Geys and Heyndels 2003; Ho and Imai 2006).

101. Eye tracking studies examining how individuals examine ballots and surveys have shown that people tend to start in the top left and to scan from there to assess the potential choices, spending the most time on the first few options (Galesic et al. 2008; X.

[12] We know this for at least three reasons: First, Bush was listed in the less confusing first position and Gore in the more confusing second position on these ballots. Second, the county overall leaned Democratic meaning that even a neutral suppression of votes would tend to harm the Democratic nominee. And third, more of the overvotes in the county included Gore as one of the candidates than included Bush (Mebane 2004).

Wang 2020). Individuals can experience errors in their visual attention, and these too can introduce biases (Engels, Wang, and Byrne n.d.; Höhne and Lenzner 2015).

102. When candidates for a single office are split between columns of a ballot, visual attention studies have shown that individuals sometimes think that there are two separate contests they should be voting in (X. Wang 2020); voters in these contests often end up overvoting and thereby invalidating their votes (Chatradhi 2023; Niemi and Herrnson 2003; Norden and Iyer 2011). When ballots span multiple pages, many voters only appear to choose among those candidates on the first page (Herrnson et al. 2008; Ho and Imai 2006). These tendencies too imply that a truncated visual search may be responsible for voting errors. Ballot design decisions that might lead individuals to miss certain sets of candidates on the ballot thus serve as a potential source of confusion for voters.

103. To assess the implications of voter errors due to confusion, scholars often examine the extent to which a given ballot style leads to situations where individual voters fail to record valid votes. This can occur either because voters leave all candidates for a particular office blank (undervoting) or because they invalidate their ballots by choosing too many candidates (overvoting).

104. As the process of voting becomes more difficult, voters also appear to suffer from fatigue. That is, they start to pay less attention to individual contests, tend to employ questionable heuristics more often, and may even leave contests toward the bottom of the ballot blank. Much of the work studying this process has focused on the influence of the number of contests and candidates on the ballot on the potential for

ballot roll-off, that is where people stop voting after making choices in only a subset of the contests (Augenblick and Nicholson 2016).

105. Ballot format can also be a source of fatigue. If voters have trouble finding the candidates in a particular contest or need to go back to correct an unintentional undervote, they may be more fatigued and less likely to make choices that match their preferences. The impacts of this can enhance other ballot design biases or can even mean that some groups of individuals are systematically disenfranchised. For a variety of reasons, individuals in historically disadvantaged groups tend to be more likely to fail to complete their ballots; design decisions that make voting more difficult can exacerbate these challenges (Engstrom and Roberts 2020).

The design of New Jersey primary ballots contains features expected to induce confusion

106. New Jersey primary ballots often include misleading cues that have the potential to make voters' jobs more difficult and to introduce voting errors. For instance, the fact that candidates for a single office are not always presented in subsequent columns (or rows) means that it is possible that voters will sometimes fail to recognize which candidates are part of the same contest. Voters who may have preferences for candidates in "ballot Siberia" may fail to identify their preferred candidate and end up either selecting someone else in response or leaving the contest blank for their failure to realize that their candidate was, in fact, on the ballot.

107. Although there have not been many direct studies of the effects of the particular features of the New Jersey primary ballot (as they are quite idiosyncratic), these

features violate core principles of ballot design. The Brennan Center for Justice articulates four general principles that ballot designers should employ to help voters complete their ballots efficiently and accurately. These are 1) "Don't split contests," 2) "Make sure ballot design is consistent," 3) "Make ballots easy to understand visually," and 4) "Give voters maximum flexibility" (Norden, Quesenbery, and Kimball 2012, 11). New Jersey's primary ballots often violate the first three of these principles. To the extent that these principles are violated, voters will make errors, and those errors will tend to aid particular candidates over others.

108. Some evidence does exist for these effects in New Jersey. One study of the implementation of electronic voting in New Jersey in 2006 found that the two counties that shifted to scrolling office-block ballots for the general election had far fewer undervotes than the counties that maintained the party-column style ballots in the general election (Kimball and Kropf 2008). They determined that voters were twice as likely to cast invalid votes for Senate (2.9% vs. 1.4%) and nine times as likely to cast invalid votes for the three statewide public questions on the ballot (rates of 3.0 to 3.4% for the scrolling ballots and 28.4 to 29.4% for the full party-column ballots. Electronic party-column style ballots presumably required more effort on the part of voters to navigate and thereby dissuaded voters.

109. In Dr. Rubin's analyses, she finds that 32.4% of individuals who voted in the 4th Congressional District Democratic Primary in Mercer County overvoted and thereby invalidated their votes, presumably because of an anomaly whereby two candidates for the same office were listed in the same column (Rubin 2023). Similarly, she shows that

the lack of a Senate candidate on the line in Atlantic County in 2020 was associated with a substantial undervote in this contest (Rubin 2023). These voter errors induced by design make differences in which votes are cast and counted. And since such errors are not evenly distributed across the population, they have electoral impacts as well.

How large are the effects of ballot design decisions in New Jersey?

110. To date, there have been only a couple of studies examining the influence of New Jersey primary ballot designs on voter behaviors and electoral choices. This paucity is not particularly surprising. Although research examining the effects of ballot designs have proliferated since scholars first recognized the impacts of the Butterfly Ballot on the 2000 U.S. Presidential Election, the group of scholars conducting this work remains relatively small and much of the research to date has focused on circumstances that render analysis of the effects relatively straightforward. When electoral procedures change, when they vary across districts, or when a local anomaly appears, the effects of ballot design are straightforward to estimate.

111. As I noted above, New Jersey's primary election placement system uniquely combines multiple features of poor design that are difficult to simultaneously disentangle. Candidates benefitting from the "weight of the line" are also much more likely to appear in columns toward the left side (or top) of the ballot. Individuals are not randomly placed on the line, meaning that it is difficult to determine how much of the electoral benefit is due to visual cues, to straightlining habits, to voters attentive to county party recommendations, or to the resources that might come with a county

party endorsement. While we can likely be confident that some of the effect is related to each of these, the only way to fully isolate the effects involves understanding what voter behavior would look like in the absence of some of these features.

112. There are two types of comparisons of existing data that can help to identify the magnitude of biases attributable to features of New Jersey's primary ballot system, each of which has formed the basis for research to date. One strategy leverages the relatively rarified set of circumstances where individual candidates were sometimes on the line and sometimes not on it. A second approach examines the effect of county endorsements for candidates in party-column ballots with those same candidates in office-block ballots. These effects have been estimated in recent work by Wang and Colleagues (2023) and all of their tests indicate that voters appear to be influenced heavily by the design of the ballot.

113. Although the evidence they present is compelling, elections in New Jersey severely limit analyses of circumstances where position effects vary across contests. Most candidates who receive the benefits associated with the line do so across all counties. Critics could raise questions about whether there are other reasons why candidates who only sometimes appear on the county line benefit in the locations where they are listed with the other party slogan nominees. And while such rationales seem unlikely to fully account for differences on one side or the other of a county line, New Jersey elections offer no potential to adjudicate these questions. To test this possibility, we would ideally need to observe some circumstance where the candidate

who is listed on the line receives this benefit at random instead of as a function of a partisan process.

114. The optimal strategy for assessing whether ballot-derived benefits exist without the underlying partisan selection process is through the use of experimentation. Hence, I designed a study where voters respond in an experiment to potential ballots that follow New Jersey's placement rules, but where I randomly varied which candidates were on the line as well as the physical positioning of the various candidates on the ballot. By letting voters choose candidates from hypothetical ballots that vary in this regard, we can estimate the impacts of candidate positioning, the weight of the line, and of placement distinct from other candidates in an environment where these cues are not conflated with either candidate quality or the machinations of county parties.

Study design

115. I conducted just such a study for this case. Sampling individuals who voted in previous Democratic primaries from the voter files for the 7th and 8th Congressional Districts in New Jersey and who had cell phone numbers that could be matched to the voter file, I worked with Braun Research to present these likely New Jersey Democratic primary voters with one of a series of possible ballots that they could see in the 2024 primary elections, which will be held on June 4th. By observing how behavior differed depending on which version of the ballot individuals received, I could determine the effects of ballot cues.

116. After receiving a text message invitation to the survey, individuals were randomly assigned to see either a party-column-style or an office-block ballot that matched features of their county's ballots with candidates for four (4) offices, two (2) of which were contested and were asked who they would vote for.[13] Voters could select a Presidential candidate, a U.S. Senate candidate, a U.S. House candidate, and one or more candidates for a single county office (commissioner if there was a commissioner election and either sheriff or surrogate if there was not).[14]

117. The sole listed Presidential candidate was Joe Biden. Voters were asked to choose among four candidates who are currently running for U.S. Senate: Patricia Campos Medina, Larry Hamm, Andy Kim, and Tammy Murphy. They were asked to select among three candidates currently running for U.S. House. In the 7th Congressional district, the choice was between Jason Blazakis, Sue Altman, and Gregory Vartan[15] and

[13] In total, we sent text messages to mobile phones for 184,762 registered Democrats in these districts, oversampling those who had voted in recent primary elections on Democratic party primary dates. Each sampled individual was sent up to two (2) text messages encouraging them to complete the study unless they had either completed the study or opted out after the first message. Messages were sent between January 16 and January 27, 2024. In total, 13,473 clicked on the link in the text message (7.3% of those texted), 3,062 agreed to continue on to the study, and 1,393 completed the study. The response rate for the study was 0.75% of messages successfully sent, which is typical for text message studies of this sort. Individuals who clicked on a link in the text message were told that their answers would be anonymous, asked if they consented to the study and, if so, were presented with a sample ballot and asked who they planned to vote for in the Democratic primary. The sample ballots included both English and Spanish where this was typical in the county and only included English when county ballots were only in English. For each analyses of individual contests, we examined respondents who chose an answer for that contest and excluded those who wrote-in an alternate candidate.

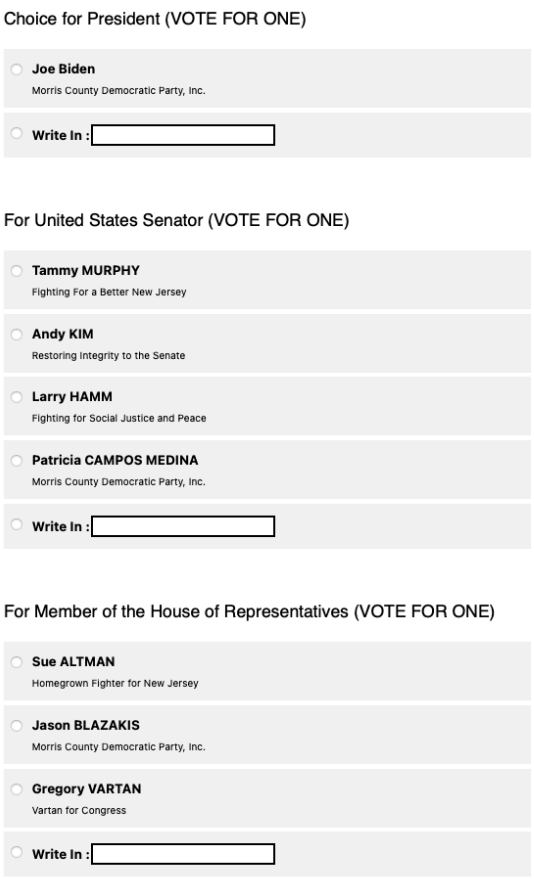
[14] Before agreeing to the study, respondents saw the following text: "In this survey, we are interested in how people plan to fill out their ballots in the 2024 primary elections. On the next page, you will see one possible way that the ballot might look. The real ballot may differ from this (as candidates in the race might change and the final ballots have not been designed yet). You will be asked to select the candidates you expect to vote for. All responses will be completely anonymous. By continuing, you agree to take part in this study. Note, this is a study, and not official elections materials."

[15] Vartan and Blazakis dropped out of the race after the study was designed and fielded. Around one-quarter of CD7 respondents completed the study after Vartan dropped out. Blazakis dropped out after the field period had concluded.

in the 8th Congressional district, the choice was between Ravinder Bhalla, Robert Menendez Jr., and Kyle Jasey. Candidates for county offices were either incumbents up for reelection or individuals who had run for these offices in the recent past; here the ballots indicated that respondents should vote for between 1 and 3 of these candidates depending on the number of individuals in that position up for reelection. For all offices, respondents were also offered the possibility to write in an alternate candidate.

118. Voters were randomly assigned to see either an office-block ballot or a party-column style ballot.[16] For the office-block ballot, each candidate for each office was presented in a random order, followed by a write-in option. In each county, the county party slogans used in prior elections were assigned to Joe Biden, a randomly selected U.S. Senate candidate, a randomly selected U.S. House candidate, and all county candidates. The other candidates for Senate and House received individual slogans. This format allowed us to test the impact of ballot position as well as the impact of presenting county party endorsements on the ballot. A screenshot showing part of the ballot is below.

[16] By design, one-third were supposed to receive the office-block ballots and two-thirds were supposed to receive party-column ballots. Due to an administrative error, the actual rates at which respondents received these two types of ballots differed from these targets, with 59.6% of respondents who agreed to take part in the study assigned to a party-column ballot and 40.4% assigned to an office-block ballot. This difference did not have an impact on any study results.



119. To generate party-column ballots, I assumed that one U.S. Senate and one U.S. House candidate would each end up on the county line. I also assumed that one additional pair of House and Senate candidates would decide to bracket together, leaving two of the Senate candidates and one of the House candidates unbracketed.[17] After generating all 72 possible sets of House and Senate candidates in each of these positions for both Congressional districts, I then followed New Jersey election

[17] This allowed us to make a separate assessment of the effects of bracketing and was typical of what is observed in historical New Jersey ballots. Notably, the effects of other design decisions with respect to bracketing or the presence of additional candidates on the ballot (e.g., other presidential nominees), could yield sizable changes in how voters might work their way through the ballot. The design possibilities for this study were limited to yield a realistic but relatively simple to analyze ballot and one that could be fully viewed in landscape mode on most mobile phones.

procedures to randomly assign the Senate candidates to columns, placing both the county line and bracketed candidates in the columns associated with their respective Senate candidates and the placing the unbracketed House candidate in column 5. In total, there were 1,728 possible ballot orientations based on these permutations (24 per bracketing arrangement). By randomly assigning respondents to one of these possible ballot orientations, I was able to examine the effects of each design decision independently. Two examples of these ballots, drawn from different counties, are shown.[18]

Which candidates do you plan to vote for? (If you are having trouble seeing the candidate's names on a mobile phone, try using landscape mode)

OFFICE TITLE	DEMOCRATIC COLUMN 1	DEMOCRATIC COLUMN 2	DEMOCRATIC COLUMN 3	DEMOCRATIC COLUMN 4	DEMOCRATIC COLUMN 5	WRITE-IN COLUMN
CHOICE FOR PRESIDENT FOR 4 YEARS (VOTE FOR 1)	**Joe BIDEN** Sussex County Democratic Committee Org.					Write-In
UNITED STATES SENATE FOR 6 YEARS (VOTE FOR 1)	**Patricia CAMPOS MEDINA** Sussex County Democratic Committee Org.	**Andy KIM** Restoring Integrity to the Senate	**Tammy MURPHY** Fighting For a Better New Jersey	**Larry HAMM** Fighting for Social Justice and Peace		Write-In
HOUSE OF REPRESENTATIVES FOR 2 YEARS (VOTE FOR 1)	**Gregory VARTAN** Sussex County Democratic Committee Org.		**Jason BLAZAKIS** Fighting For a Better New Jersey		**Sue ALTMAN** Homegrown Fighter for New Jersey	Write-In
COUNTY COMMISSIONER FOR 3 YEARS (VOTE FOR 2)	**Damaris LIRA** Sussex County Democratic Committee Org.					Write-In
	Camila DIRESTA Sussex County Democratic Committee Org.					Write-In

Continue

[18] When the studies were administered, the ballot was sized dynamically with text appearing as large as possible for each position.

Which candidates do you plan to vote for? (If you are having trouble seeing the candidate's names on a mobile phone, try using landscape mode)

OFFICE TITLE TITULO DE CARGO	COLUMN A COLUMNA A A Democratic/Demócrata	COLUMN B COLUMNA B B Democratic/Demócrata	COLUMN C COLUMNA C C Democratic/Demócrata	COLUMN D COLUMNA D D Democratic/Demócrata	COLUMN E COLUMNA E E Democratic/Demócrata	PERSONAL CHOICE SELECCIÓN PERSONAL
Choice for President (VOTE FOR ONE) Selección para Presidente (VOTE POR UNO)				Essex County Democratic Committee Joe **BIDEN**		Write-In Vote Votar por Escrito
For United States Senator (VOTE FOR ONE) Para Senador de los Estados Unidos (VOTE POR UNO)	Fighting For a Better New Jersey Tammy **MURPHY**	Restoring Integrity to the Senate Andy **KIM**	Progressive Democrats for Change Patricia **CAMPOS MEDINA**	Essex County Democratic Committee Larry **HAMM**		Write-In Vote Votar por Escrito
For Member of the House of Representatives (VOTE FOR ONE) Para Miembro de la Cámara de Representantes (VOTE POR UNO)		Restoring Integrity to the Senate Robert **MENENDEZ Jr**		Essex County Democratic Committee Kyle **JASEY**	Ravinder for Congress Ravinder **BHALLA**	Write-In Vote Votar por Escrito
For County Sheriff (VOTE FOR ONE) Para Sheriff del Condado (VOTE POR UNO)				Essex County Democratic Committee Armondo B. **FONTOURA**		Write-In Vote Votar por Escrito

Continue

120. The study was designed to directly answer the following series of questions: (1) How do candidates in party-column ballots perform when they are placed on the county line and listed with the county party slogan compared to when they are not? (2) How does the impact of being listed in this way on a party-column ballot compare to the impact of being listed with the county party slogan on an office-block style ballot? (3) How does candidate performance on party-column ballots vary depending on which column of the ballot they are in? (4) How does the impact of candidate placement in columns compare to the impact of name order on the office-block ballot? (5) Does the influence of placing the line in the first column yield a different effect from when the line was placed in other columns? (6) How often do voters who see a party-column ballot tend to simply vote down the party line? And how does this compare to the frequency with which voters select only party slogan candidates across contested offices on an office-block ballot? (7) Did voters avoid selecting unbracketed candidates? (8) And

did it matter if the unbracketed House candidate in a contest (who was always placed in the 5th column) was separated from the other candidates for the office by an empty choice box in the 4th column of the U.S. House row.[19]

121. In addition, the study also allows us to ask a few questions about the administrative difficulty of filling out ballots in each of these formats. Specifically, we can examine: Did individuals tend to leave the study more often when they were presented with a party-column or office-block ballot? Did voters fail to complete their ballots more often with a party-column or office-block ballot? And did it take voters more time to fill out the party-column or office-block ballots?

122. In the sections that follow, I outline the logic for how the study can allow us to answer each of these questions, present results from the analyses, and explain what those results mean about the impacts of New Jersey's primary ballot design decisions both for candidates and for the results of the primary elections themselves.

Candidates on party-column primary ballots perform much better when they are placed on the county line and listed with the county party slogan than when they are not

123. To determine whether and to what extent benefits accrue to a candidate as a function of being listed on the county line, we want to know whether otherwise identical candidates would receive differing shares of votes based on this placement decision and its corresponding implications (i.e., being listed in the same column as

[19] For these analyses, I examine only votes received by listed candidates. Write-in votes and empty ballots are excluded because New Jersey elections use a first-past-the-post system, in which the candidate with the most votes wins even if no candidate achieves an absolute majority.

other county party leadership endorsed candidates and sharing a slogan with those candidates). While it would be nice to test the impact of these features separately, this cannot be done on a party style ballot without deviating from what could be observed in New Jersey elections.

Table 1 - Did Voters Choose Candidates on the Party Line?

	On Line	Not	N	# of Cands	Expected	Observed	Benefit vs Chance	Benefit vs Others	p
Senate	211	392	603	4	25.0%	35.0%	10.0%	13.3%	<.001
NJ-7	188	128	316	3	33.3%	59.5%	26.2%	39.2%	<.001
NJ-8	94	116	210	3	33.3%	44.8%	11.4%	17.1%	<.001

124. Because each Senate and House candidate was randomly assigned to either be on the line or off the line on any given ballot, we can estimate the effect of being listed on the line by comparing the average vote share garnered by candidates who were listed on the line with the average vote share garnered by candidates who are listed off the line across our ballots (Table 1).[20] Since the candidates were randomly assigned to the county line, if voters encountered our ballot and voted for a preferred Senate candidate from among the four currently running, they should have picked the county line candidate 25% of the time and other candidates 75% of the time. Instead, voters chose Senators on the county line 211 times out of 603 party-column style ballots where they voted for one of the listed candidates (35.0%). This reflected a 10.0 percentage point benefit in vote share over chance and a 13.3 percentage point vote share over

[20] Since the candidates were randomly assigned to these positions across respondents, the average difference between candidates who were on and off the line should be statistically unrelated (orthogonal) to who those candidates are. The fact that some candidates tend to perform better or worse and even that the effect of being listed on the line may matter more for some candidates than others can be ignored for the scope of these analyses because the analyses average across all candidates for a position.

how those same candidates performed when they were not on the line. The results are strongly statistically significant; indeed the probability of receiving this benefit by chance was less than 1 in 10,000,000.[21]

125. A similar benefit accrued for the House candidates. For both house races, random chance would result in each candidate receiving 1/3 of the vote. In the 7th Congressional District, however, voters chose the county line candidates 188 times across 316 ballots (59.5%), yielding a 26.2 percentage point benefit over chance and a 39.2 percentage point benefit over those same candidates when they were not on the line. In the 8th Congressional District, voters chose candidates on the line 94 out of 210 times (44.8%), an 11.4 percentage point benefit over chance and a 17.1 percentage point benefit over those same candidates when they were not on the line. Both differences were strongly statistically significant and would be expected by chance less than 1 in 1000 times.[22]

126. Across these three contests, the presence of a party line benefit was consistently present. Indeed, this benefit appears to have aided every candidate in every contest. When we look at the expected benefit by candidate, we find that party line candidates were projected to improve in their vote shares by between 6.7 and 38.2 percentage points depending on the candidate and contest. Estimates of benefits for each candidate are shown in Table 2.

[21] Based on a binomial test comparison with chance; p<.00000001, two-tailed.
[22] Binomial test p values of <.001, two-tailed.

Table 2a - Candidate Performance in Party-Column Ballots

	Party Line			Primacy			Combined Effects		
Senate	On line	Off Line	Difference	First	Later	Difference	Both	Neither	Difference
Kim	60.4%	44.5%	15.8%	59.9%	44.6%	15.3%	76.5%	40.7%	35.8%
Murphy	38.7%	20.2%	18.5%	33.5%	21.4%	12.1%	48.8%	17.2%	31.5%
Hamm	19.9%	8.0%	11.9%	13.9%	9.9%	4.0%	19.5%	6.6%	12.9%
Campos Medina	18.0%	11.3%	6.7%	16.2%	12.1%	4.1%	25.6%	10.9%	14.7%
7th Congressional									
Blazakis	53.5%	15.3%	38.2%	44.6%	18.1%	26.5%	58.6%	10.1%	48.5%
Altman	71.4%	34.3%	37.1%	61.3%	41.5%	19.8%	81.1%	31.8%	49.3%
Vartan	46.7%	11.2%	35.5%	41.4%	13.6%	27.8%	59.1%	8.4%	50.7%
8th Congressional									
Menendez	33.8%	21.4%	12.4%	33.3%	22.0%	11.3%	40.7%	19.5%	21.2%
Bhalla	59.0%	41.7%	17.3%	62.7%	39.6%	23.1%	63.0%	34.3%	28.7%
Jasey	31.0%	16.6%	14.4%	34.2%	14.4%	19.8%	42.5%	13.9%	28.6%

Note: Write-in candidates are in the denominator for this chart, meaning that percentages do not add to 100 within each race.

Table 2b - Candidate Performance in Office-Block Ballots

	Endorsement			Primacy			Combined Effects		
Senate	Endorsed	Not	Difference	First	Later	Difference	Both	Neither	Difference
Kim	59.3%	49.4%	9.9%	58.5%	49.9%	8.7%	70.3%	47.6%	22.7%
Murphy	27.7%	21.8%	5.9%	26.5%	22.2%	4.3%	30.3%	20.8%	9.5%
Hamm	10.6%	10.5%	0.1%	12.2%	10.0%	2.2%	18.8%	10.2%	8.5%
Campos Medina	15.4%	13.5%	1.9%	18.5%	12.5%	6.0%	23.1%	12.2%	10.9%
7th Congressional									
Blazakis	39.5%	2.6%	37.0%	17.4%	16.0%	1.4%	51.9%	7.8%	44.0%
Altman	76.4%	12.9%	63.5%	44.0%	45.7%	-1.7%	72.2%	30.8%	41.4%
Vartan	50.0%	2.6%	47.4%	18.4%	23.7%	-5.3%	36.7%	5.1%	31.6%
8th Congressional									
Menendez	37.7%	12.6%	25.1%	36.7%	33.7%	3.0%	30.8%	30.4%	0.4%
Bhalla	30.7%	13.2%	17.5%	37.6%	31.2%	6.4%	34.4%	32.5%	1.9%
Jasey	20.0%	4.7%	15.3%	19.2%	14.0%	5.2%	28.0%	12.1%	15.9%

Note: Write-in candidates are in the denominator for this chart, meaning that percentages do not add to 100 within each race.

127. These differences were also consequential in terms of who would likely win. When Andy Kim was on the party line, he led the Senate race by a margin of 60.4% to Tammy Murphy's 16.9%. In contrast, when Murphy was on the party line on our ballots, the two candidates were nearly tied, with Kim at 43.3% and Murphy at 38.7%. In the 7th Congressional District, our survey results revealed that whichever candidate had the line was ahead; Altman led the field with 71.4% of the preferences when she was on the line, trailed distantly by Blazakis at 16.0%. When Vartan was on the line, he was leading 46.6% to Altman's 37.7%. And when Blazakis was on the line, Blazakis was projected to outpace Altman 53.5% to 31.6%. In the 8th Congressional District, if Bhalla were on the line, he would likely get an outright majority of the vote, but the race would be close if either other candidate received this benefit.

128. These results indicate that the impacts of being listed on the county line are substantively large, electorally consequential, and strongly statistically significant.

While county slogans sometimes provide a benefit on office-block primary ballots, these benefits are not always present and are distinct from the party line effect

129. To determine how the benefits of being on the line compared to the benefits of receiving the party slogan on an office-block ballot, I needed to first assess what benefits candidates accrued when they were assigned this slogan and then test how those benefits differed from the impact of placement on the line. Because the slogan was not accompanied with the weight of the line or evidence of which other candidates

were part of the bracket, the office-block ballot provides a relatively straightforward assessment of the impact of the endorsement of county party leadership. By comparing the office-block benefit with the impact of the line of the party-column ballot, we can see whether the value of the county party leadership endorsement yields the same benefits as the party line for otherwise identical groups of voters.

130. In contrast, there are reasons to think that the effects of the county line and of the county party slogan on an office-block ballot may reflect somewhat different considerations for voters. Voters looking at the party-column style ballot are exposed to not merely an endorsement, but also a series of cues that they can use to make their decisions—the weight of the line, the presence of endorsements, the impacts of line placement on the ballot, and the possibility that voters are also thinking about the bracketing status of other candidates. Hence, it is possible that this effect differs qualitatively from the independently analyzed impact of the party slogan cue in the office-block ballot.

131. As with the county line analysis, to determine the benefits of county slogans on the office-block ballots, we want to know whether otherwise identical candidates would receive differing shares of votes depending on whether they were coupled with the county slogan. Nicely, because the county party slogan was randomly assigned, there was no inherent position effect or unique visual cue associated with candidates receiving a county-party slogan other than the fact that those slogans were shared with some candidates running for other offices in different blocks. Hence, I could directly

compare the votes received for candidates coupled with the county party slogan against the votes received for candidates when the slogan was not present.

Table 3 - Did Voters Choose Candidates with Party Slogan on Office Block Ballots?

	Slogan	Not	N	# of Cands	Expected	Observed	Benefit vs Chance	Benefit vs Others	p
Senate	146	340	486	4	25.0%	30.0%	5.0%	6.7%	.011
NJ-7	151	77	228	3	33.3%	66.2%	32.9%	49.3%	<.001
NJ-8	70	133	203	3	33.3%	34.5%	1.1%	1.7%	.77

132. For Senate candidates, sharing a place on the ballot with the county party slogan represented a small but significant benefit (Table 3). On average, Senators sporting this branding were selected 146 times out of 486 total ballots. This 30.0% of the vote was 5.0 percentage points more than the 25% expected by chance and 6.7 percentage points more than those same candidates would be expected to achieve without the county party label. This was significant at the p=.01 level, meaning that it would be expected to occur around 1 in 100 times by chance.[23]

133. Of the House races we examined, the county party slogan represented a very large benefit in one contest and virtually no benefit whatsoever in the other. Specifically, in the 7th Congressional District, 151 of the 228 voters (66.2%) chose the candidate sporting the county slogan, a preference that indicated a 32.9 percentage point increase in candidate performance over chance for receiving the slogan and an effect that was strongly statistically significant (p<.001). In contrast, in the 8th Congressional District, our best estimate of the benefit of the slogan was a mere 1.1

[23] Binomial test, two-tailed.

percentage points, with only 70 of the 203 voters choosing the endorsed candidate (34.5%), a number that was statistically indistinguishable from chance (p=.77).[24]

Table 4 - Were Slogan Effects Different in 7th vs. 8th Congressional for Office Block?

	NJ7 Share	NJ8 Share	Dif.	Chisq	N	p
Slogan	66.2%	34.5%	31.7%	42.1 (1)	431	<.001

134. These results suggest that the presence of an endorsement benefit is inconsistent across contests (Table 4). In the 8th Congressional District, endorsement did not have a discernable impact; in the Senate contest, endorsement yielded a modest benefit; and in the 7th Congressional District, endorsement was an enormous cue, with candidates receiving the endorsement virtually certain to win. The 31.7 percentage point difference in the expected vote share for endorsed candidates across the two House contests was highly statistically significant and this large a discrepancy would only be expected to occur 1 in 10,000,000 times by chance. This indicated that the role of endorsements was not constant, but instead depended on the race in question.[25]

135. This disparate impact suggests that the benefits of county party endorsements likely hinge on features of the contest in which the endorsement takes place. Here, a quick look at the differences between the 7th and 8th Congressional District contests sheds light. The 7th Congressional District is currently represented by Republican

[24] Binomial tests, two-tailed. Because of the inherent error due to random sampling, the 8th Congressional District numbers are associated with a 95% confidence interval ranging from -5.4 percentage points to 8.1 percentage points. Hence, although we cannot assert that there was an effect, we also cannot conclude that there was not a modest impact.

[25] Based on a chi-squared test comparing proportions in both contests for the office-block ballots only (χ^2=29.7(1, 431) p<.00000001.

Thomas Kean Jr., and none of the three Democratic candidates have previously represented large portions of the district. In these circumstances, we would expect a strong endorsement effect, because the candidates are not well known. The 8th Congressional District contest, in contrast, features both an incumbent (Robert Menendez Jr.) and the mayor of a sizeable city in the district (Ravinder Bhalla). Presumably because voters know more about these candidates, the value of an endorsement is less significant.

Table 5 - Did Slogans Matter More On Party Column or Office Block Ballots?

	Party Mean	Office Mean	Dif.	Chisq	N	p
Senate	35.0%	30.0%	5.0%	2.8 (1)	1089	.05
NJ-7	59.5%	66.2%	-6.7%	2.3 (1)	544	.07
NJ-8	44.8%	34.5%	10.3%	4.1 (1)	413	.02

136. When we compare the party-column and office-block style ballots, what we observe is that the effect of the endorsement from the office-block ballots is simply not synonymous with the effect of the party line. In the Senate contest and in the 8th Congressional District, candidates on the line perform better than candidates who get the endorsements on the office-block ballots; in the 7th Congressional District, candidates on the line perform worse than their office-block counterparts (Table 5).[26]

[26] The 5.0 percentage point difference for Senate endorsements was significant at p=.05, χ^2=2.8(1, 1089); and the 10.3 percentage point benefit in the 8th Congressional District was significant at p=.02, χ^2=4.1(1, 413), one-tailed chi-squared tests. Although it ran contrary to expectations, we conducted an identical test on the 6.7 percentage point difference in the 7th Congressional District and this was not quite statistically significant at p=.06, χ^2=2.3(1, 544).

137. This implies that when voters are looking at the party-column style ballot, they are not conferring as much value to the endorsement of the county party as the people who encounter that same endorsement in an office-block format. If endorsements were the primary cause of the benefit of being on the line, we would have observed much smaller party line effects in the Senate and 8th Congressional races and likely a much larger one in the 7th Congressional District. Instead, the comparatively consistent influence of the line suggests that the psychology of the line is not principally about those cues; put simply, the line has an effect of its own and it appears to be distinct from the endorsement effect.

138. This distinction has important implications for the state's interest in ballot design. It belies the claim that the party-column ballot is uniquely suited to provide voters with party faction information. Instead, the value of the slogan can sometimes even be higher in office-block ballots, as voters might be more prone to using that information when other ballot features are less prominent in their decision-making. This indicates that even if the state sees value in providing a county party slogan for voters, that value is not necessarily best realized in a party-column format.

139. Collectively, then, this indicates that benefits of placement on the county line, and thus also its electoral impacts, are different from the impact of the county party slogan.

Candidates on party-column primary ballots receive large primacy benefits

140. Candidates on party-column ballots received benefits from placement in the first available position on those ballots. For Senators, this was assessed by comparing the proportion of votes for the candidates in the first column with the number of votes we would expect if there was no positional benefit (i.e., 25%). For House candidates, the first available column was sometimes the first column, sometimes the second column, and sometimes the third column, depending on where the Senate candidates that House candidates had bracketed with had been placed.[27] For House races, I calculated three distinct tests to understand the impact of name order. I estimated the impacts of the first column that any candidate appeared in, the impacts of being listed specifically on the first column of the ballot (presuming that someone was listed in that column), and the benefit of being the first-listed House candidate among the two candidates who bracketed with others. This last analysis allows us to disentangle the influence of bracketing from the influence of first position, as these are conflated on typical New Jersey ballots (this is compared to the expectation that voters would choose each of the two bracketed candidates an equal number of times).

141. Both Senate and House Candidates received more votes when placed in the first available columns than when placed later (Table 6). For the Senate candidates, who could each appear in this position regardless of whether they were bracketed with other candidates, the candidate listed first was chosen 194 out of 603 times, garnering 32.2% of the vote. This was significantly better than the 25% that we would expect to observe

[27] Across the potential ballot formats, the leftmost House candidate was expected to be in the first column half the time, the second column a third of the time, and the third column one sixth of the time.

if first position did not offer a benefit and reflected a 7.2 percentage point improvement over chance and a 9.6 percentage point improvement over the average performance in later positions. The result was statistically significant and could be expected by chance less than 1 in 10,000 times.[28]

Table 6 - Did Voters Choose Candidates Listed First on Party Column Ballots?

	First	Later	N	# of Cands	Expected	Observed	Benefit vs Chance	Benefit vs Others	p	Comparison
Senate	194	409	603	4	25.0%	32.2%	7.2%	9.6%	<.001	
NJ-7	159	157	316	3	33.3%	50.3%	17.0%	25.5%	<.001	first vs later
NJ-8	99	111	210	3	33.3%	47.1%	13.8%	20.7%	<.001	first vs later
NJ-7	87	80	167	3	33.3%	52.1%	18.8%	28.1%	<.001	column 1 vs later[1]
NJ-8	43	54	97	3	33.3%	44.3%	11.0%	16.5%	.024	column 1 vs later[1]
NJ-7	159	114	273	2	50.0%	58.2%	8.2%	16.5%	.008	first vs second
NJ-8	99	63	162	2	50.0%	61.1%	11.1%	22.2%	.006	first vs second

[1]This comparison is only for contests that included a candidate in column 1

142. All three of our House metrics revealed first position preferences. When comparing the leftmost-listed House candidate with the performance we would expect to see if ballot placement had no influence, we find double-digit benefits. In the 7th Congressional District, 50.3% of voters chose the candidate listed first and in the 8th Congressional District 47.1% chose the candidate listed first (compared to 1/3 by chance in both contests). This reflected a 17.0% benefit over chance and a 25.5% benefit over other candidates in the 7th and a 13.8% benefit over chance and a 20.7% benefit over other candidates in the 8th. Benefits this large would be expected to occur less than 1 in 10,000 times by chance.[29]

[28] p=.00001 in a two-tailed binomial test.
[29] ps<.0001 from two-tailed binomial tests.

143. If we restrict our analyses only to the two House candidates who bracketed with others, similar distinctions appeared. In the 7th Congressional District, the candidate listed earlier received 58.2% of the votes accrued among the two bracketed candidates, a benefit of 8.2 percentage points over chance and 16.5 percentage points over the also-bracketed candidate in the second position. In the 8th Congressional District, the earlier-listed candidate received 61.1% of these two candidates votes, a benefit of 11.1 percentage points over chance and 22.2 percentage points over the candidate with second billing. In both cases, the benefits this large would be expected to occur less than 1 in 100 times.[30]

144. These distinctions indicate that candidates receive a sizable benefit from being listed first in each of the contests on the party-column style ballot. Evidence that first-position benefits were present both in the Senate contests and when excluding unbracketed candidates for the House further indicates that this was not just due to the party line effect, but also more directly to primacy effects. Indeed, all candidates on party-column ballots performed better when listed in the leftmost available position, with these benefits ranging from 3.9 percentage points to 27.8 percentage points across candidates (see Table 2 above).

Name order effects in party-column primary ballots are larger than those on office-block primary ballots

[30] ps of .008 and .006 from two-tailed binomial tests and Ns of 273 and 162 for the 7th and 8th Congressional Districts respectively.

145. On the office-block ballots, the influence of name order was considerably smaller than on the party-column ballots. The benefits of first position on these ballots only reached statistical significance in the Senate race, where voters chose candidates listed first 146 times across 486 elections, netting them 30.0% of the vote, a 5.0 percentage point increase over chance (Table 7). This result was significant at the p=.01 level, meaning that a result this large would be expected by chance only about 1 in 100 times.[31]

Table 7 - Did Voters Choose Candidates Listed First on Office Block Ballots?

	First	Later	N	# of Cands	Expected	Observed	Benefit vs Chance	Benefit vs Others	p
Senate	146	340	486	4	25.0%	30.0%	5.0%	6.7%	.012
NJ-7	75	153	228	3	33.3%	32.9%	-0.4%	-0.7%	.94
NJ-8	76	127	203	3	33.3%	37.4%	4.1%	6.2%	.23

146. For both congressional contests, first position benefits were not significant, but also could not be distinguished from effects of similar size to those observed for the Senate contest. Of the 228 individuals selecting candidates in the 7th Congressional district, 75 chose the first-listed candidate, a number that almost perfectly matched what would be expected by chance. Here we can conclude with 95% confidence that first-position effects were somewhere between -6.5 and 6.1 percentage points, numbers that span the full range of most observed studies of the phenomenon. In the 8th Congressional district, 37.4% of the 203 respondents selected the first-listed

[31] Binomial test, two-tailed.

candidate leading to an estimated benefit of 4.1 percentage points, with a 95% confidence interval ranging from -2.6 to 11.2 percentage points.[32]

147. When comparing the two forms of ballots on first position effects, we find a difference for the Congressional candidates but not the Senate candidates. On average, the effect of being listed first for a Senate candidate was 2.1 percentage points larger on a party-column ballot than an office-block ballot. While this may be a real distinction, we could not distinguish a benefit of this magnitude from chance.[33] In the Congressional contests, the benefits of being listed first were significantly larger on the party-column ballot, with first billing netting 17.4 percentage points of additional benefit for candidates in the 7th Congressional District and 9.7 percentage points of additional benefits for candidates in the 8th Congressional District. These differences were each statistically significant.[34]

148. What this reveals, then is that the primacy benefit is stronger in the party-column ballot relative to the office-block ballot. This could be the case if the added complexity of the party-column style ballot leads voters to satisfice more often in this format or if voters are simply having too much trouble finding their preferred candidates and end up relying on this heuristic more than they would otherwise.

[32] ps of .94 and .23 in two-tailed binomial tests.
[33] χ^2=0.5(1, 1089), one-tailed p=.25.
[34] In the 7th Congressional District, χ^2=15.7(1, 544), one-tailed p<.0001. In the 8th Congressional district, χ^2=3.6(1, 413), one-tailed p=.03.

Primacy benefits and weight of the line benefits operate independently and are stronger together

149. To assess how the impacts of the weight of the line and the primacy effect compare, we can examine how candidates listed on the party line perform when the party line was in the first column as compared to when the party line was elsewhere on party-column ballots and also how often candidates in the first position receive votes when the first position corresponds with the party line versus when it does not. Collectively, these questions reveal whether voters are even more likely to select a candidate if they benefit from both these features as opposed to just one. The results indicate that these effects stack, that is that first position benefits and the weight of the line appear to reinforce one another, yielding even larger benefits when they are present together.

Table 8 - Did Line and First Position Effects Have Different Influences?

	Both	Line Only	Dif.	Chisq	N	p
Senate	41.8%	32.7%	9.2%	3.8 (1)	603	.026
NJ-7	66.7%	51.7%	15.0%	6.8 (1)	316	.005
NJ-8	52.8%	36.3%	16.5%	5.1 (1)	210	.012
	Both	First Only	Dif.	Chisq	N	p
Senate	41.8%	28.9%	12.9%	8.2 (1)	603	.002
NJ-7	66.7%	32.5%	34.2%	35.6 (1)	316	<.001
NJ-8	52.8%	41.2%	11.6%	2.4 (1)	210	.061

150. When a Senate candidate on the party line was in the first position, the party line was chosen 9.2 percentage points more often than when the party line candidate was in later positions (Table 8). Similarly, first-position Senate candidates were chosen

12.9 percentage points more often when that coincided with the party line. Both differences were statistically significant. When the line was in the first column, the candidate listed there was chosen by 41.8% of respondents. This compares to 32.7% of respondents who chose first position candidates when the line was not in first position and 28.9% of respondents who chose a position on the line when the line was not in the first position. A Senate candidate who was neither in first position nor on the line had only a 19.3% chance of being selected. Hence, benefitting from both cues was expected to more than double a typical Senate candidate's vote share over benefitting from neither.[35]

151. House candidates received similarly large benefits. When the line was in the first column, candidates in the first position received 15.0 to 16.5 percentage points of additional vote share over what they would have received in first position if it had not been coupled with the line. And candidates who were on the line benefitted from being listed first, receiving an additional 34.2 percentage points of vote share in the 7th Congressional District and 11.6 percentage points in the 8th Congressional District. The benefits of the line for candidates in first position were statistically significant for both districts and the benefits of first position for those on the line were strongly significant in the 7th Congressional District and very close to significance in the 8th Congressional District.[36]

[35] The difference in line effects among those in first position was χ^2=3.8(1, 603), one-tailed p=.03. The difference in first position affects attributable to being on the line was χ^2=8.2(1, 603), one-tailed p=.002.

[36] The difference in line effects among those in first position were χ^2=6.8(1, 316), one-tailed p=.005 in the 7th Congressional District and χ^2=5.1(1, 210), one-tailed p=.01 in the 8th Congressional District. The difference in first position affects attributable to being on the line was χ^2=35.6(1, 316), one-tailed p<.0000001 in the 7th Congressional District and χ^2=2.4(1, 210), one-tailed p<.06 in the 8th Congressional District.

152. The fact that these two effects operate independently not only indicates that they are not accounting for one-another, but also indicates that the system used to assign candidates to ballot positions is liable to confer both benefits upon the same candidate.

Party-column ballots encourage straightlining

153. One of the notable effects of the party-column format used in New Jersey is that there is a vertical line of candidates, endorsed by county party leadership, that seems poised to draw in voters. If voters are indeed influenced by this orientation, we should see that they tend to straightline when filling out the ballot. Hence, we expect voters to select multiple candidates from the party line column not only more often than would be expected by chance, but also more often than they would select both county party endorsed candidates in the office-block format.

Table 9 - How Often Did Voters Select Only Slogan Candidates?

	Selected	Not	N	# of Permutations	Expected	Observed	Benefit vs Chance	Benefit vs Others	p
Party - Both Contested	138	413	551	12	8.3%	25.0%	16.7%	18.2%	<.001
Party - All	76	491	567	12	8.3%	13.4%	5.1%	5.5%	<.001
Office - Both Contested	138	389	527	12	8.3%	26.2%	17.9%	19.5%	<.001
Office - All	65	418	483	12	8.3%	13.5%	5.1%	5.6%	<.001

154. Overall, individuals who voted in both the Senate and House contests chose both candidates of the candidates for these offices on the line 25.0% of the time (138 times across 551 ballots; Table 9). This was far higher than the 8.3% chance of selecting

a random Senate and House candidate that happened to be in a single column and was also much higher than the 18.8% chance of selecting both after separately factoring in the benefits of the party line for both House and Senate contests. These differences were strongly statistically significant.[37] This implies that many voters did tend to go down the party line in making their choices and that the line encouraged those choices to be more similar than they would otherwise be. In fact, of the individuals who voted in every office and did not write in candidates, fully 26.2% voted for every single county slogan candidate in the party-column style ballots. The line appears to have been a significant draw.

155. In sharp contrast, individuals who encountered the same county party slogan information on office-block ballots were not nearly as likely to vote for multiple endorsed candidates on these ballots. Overall, 13.4% of office-block voters selected both county party nominees (on 76 of 567 ballots). This was significantly higher than random chance but was both lower than and indistinguishable from the joint probabilities of selecting each endorsed candidate individually (15.4%).[38]

Table 10 - Did Voters Straightline More on Party Column Ballots?

	Party Mean	Office Mean	Dif.	Chisq	N	p
Both Contested	25.0%	13.4%	11.6%	23.7 (1)	1118	<.001
All Endorsed	26.2%	11.0%	15.2%	41.9 (1)	1116	<.001

[37] ps of <.0000001 compared to random chance and p=.0002 compared to independent effects of party line listings, two-tailed binomial tests.

[38] ps of <.0001 and .2 respectively, two-tailed binomial tests.

156. Given this distinction, it is unsurprising that the tendency to select multiple county slogan candidates was far stronger for the party-column ballots than for the office-block ballots (Table 10). When we compare the two of these, we find an 11.6% difference in the tendency to elect the same candidates for both contested races depending on whether respondents were seeing the party-column or office-block ballot. This difference was also statistically significant and had less than a one-in-a-million probability of appearing by chance.[39]

157. These results further indicate that the special circumstances of the party-column style ballot are nudging voters toward selecting party line candidates more often than they would otherwise.

Below the pivot-point, unbracketed candidates suffer

158. To assess whether being unbracketed reduces a candidate's performance compared to being bracketed but not on the line, I examined only candidates who were not in the party line column to see how they performed when they were bracketed versus when they were listed independently. In the party-column ballots, the impact of being bracketed had different positional effects for Senate and House candidates. Senate candidates who were unbracketed could still be in any of the first four columns of the ballot. In contrast, unbracketed House candidates were necessarily placed after all columns containing Senate candidates, as the Senate race was the pivot-point. The

[39] χ^2=23.7(1,1118) one-tailed p=.0000006.

difference between bracketed and unbracketed candidates in each of these cases reveals how candidates in these different circumstances are influenced by bracketing.

159. Out of the four Senate candidates, there were always two unbracketed Senate candidates and one other candidate who was not on the line. In this contest, we expect unbracketed Senators would be chosen about twice as often as bracketed candidates who are not on the party line by chance. In contrast, with three candidates running for each of the House seats, if bracketing made no difference, we would expect to see voters choose bracketed candidates and unbracketed candidates who are not on the line equally often. We can then compare candidate vote share for bracketed and unbracketed candidates against these expectations to see if bracketing results in improved candidate performance over remaining unbracketed.

Table 11 - Did Voters Avoid Unbracketed Candidates (Among Candidates Not on The Line in Party Column Ballots)?

	Bracketed	Unbracketed	N	# of Cands	Expected	Observed	Benefit vs Chance	Benefit vs Others	p
Senate	125	267	392	3	33.3%	31.9%	-1.4%	-2.2%	.56
NJ-7	85	43	128	2	50.0%	66.4%	16.4%	32.8%	.003
NJ-8	68	48	116	2	50.0%	58.6%	8.6%	17.2%	.08

160. Excluding the effect of the county line, bracketing among those not on the line appears to have a sizable effect on the two U.S. House contests but a negligible effect on the Senate race, which was the pivot-point office (Table 11). Among candidates who were not on the county line in the Senate contest, bracketed candidates were chosen 125 times versus 267 times for unbracketed candidates. This meant that bracketed candidates were chosen 31.9% of the time, compared to the 33.3% we would expect. A

distinction this large would be expected to occur more than half the time by chance even if there was no benefit for either billing.[40]

161. In contrast, in the House contests a sizeable bracketing benefit was present. In the 7th Congressional District, 85 individuals chose the bracketed candidate that was off the line versus 43 individuals who chose the unbracketed candidate (66.4%). This difference would be expected less than 1 in 1000 times by chance.[41] In the 8th Congressional District, 68 of 116 candidates chose the bracketed candidate (58.6%), a difference that was similar in nature, but only marginally statistically significant.[42] On average, the two House contests indicated that the bracketing effect for these races was about 12.7 percentage points.[43]

162. This implies that, for candidates who are not displayed on the county line, being unbracketed may be less critical for candidates at the top of the ballot or in the pivot-point position but matters greatly for candidates who may not be as well known or are not in the pivot-point position. This is likely due at least in part to coupling the influence of being unbracketed with the placement of these candidates toward the right side of the ballot.

A disadvantage for disconnected candidates

[40] p=.56 binomial test, two-tailed.
[41] p=.0002 binomial test, two-tailed.
[42] p=.08 binomial test, two-tailed. Note that this would be significant as a one-tailed directional test, which would be appropriate given the strong directional nature of this expectation.
[43] P<.0001 binomial test, two-tailed.

163. The study also included the potential that some unbracketed House candidates could be separated from their opponents, where they were not completely visually distinct but where they were detached from other candidates for their office by at least one empty cell. In about half of the contests on the ballot, the fourth column of the House row was blank, leaving a space between the two bracketed House candidates and the unbracketed one. By comparing candidate performance when this air gap was versus was not present, we can generate a conservative estimate of what this kind of placement might mean for candidates.

Table 12 - How Did Unbracketed Candidates Fare With and Without Air Gaps (House Candidates in Party Column Ballots Only)?

	Unbracketed	All Others	N	# of Cands	Expected	Observed	Benefit vs Chance	Benefit vs Others	p
No Air Gap	49	202	251	3	33.3%	19.5%	-13.8%	-20.7%	<.001
Air Gap	42	252	294	3	33.3%	14.3%	-19.0%	-28.6%	<.001

164. Although unbracketed candidates received a relatively diminutive share of the vote regardless of whether or not there was an air gap, the air gap did appear to extenuate these differences (Table 12). On the 251 ballots where no air gap was present, unbracketed House candidates in the fifth column were chosen 49 times (19.5%). On the 294 ballots where an air gap was present, unbracketed candidates were selected 42 times (14.3%). The 5.2 percentage point difference between these circumstances suggests that the act of placing candidates where they are further afield is likely to matter. And despite the fact that this is far less severe than the air gaps that characterize the ballot Siberia phenomenon, a difference this large would be expected

by chance less than 1 out of 10 times.[44] This is in line with the expectation that the more egregious forms of ballot Siberia will have relatively large effects.

Party-column ballots dissuade voters

165. The final questions we were interested in concerned whether voters appeared to find it easier to optimally complete the party-column or office-block ballots. Here we consider three metrics, each of which is indicative of the challenges that voters encounter in the process, though none of which should be treated as definitive evidence alone. Examining all individuals who passed the consent screen, we first consider whether voters were more likely to abandon the survey if they encountered an office-block or party-column ballot. Abandoning the survey implies that these individuals are likely to find one or another ballot type more burdensome. Second, among individuals who did not abandon the survey, we examine the proportion who actually completed their ballots, defined here as voting for at least 3 candidates. And finally, we examine whether it took voters more time to complete their ballots in an office-block versus party-column format.

Table 13 - Voting Administration Comparison

	Party Mean	Office Mean	Dif.	Chisq	N	p
Voted for 3+ Candidates	42.6%	49.8%	-7.2%	15.0 (1)	3062	<.001
Abandoned Study	61.2%	49.9%	11.3%	38.0 (1)	3062	<.001

[44] χ^2=2.3(1, 545), one-tailed p=.06.

166. For two of the three metrics, we find that the party-column ballot seems to have been more challenging to complete (Table 13). Overall, 61.2% of those reaching the party-column ballot left the study, compared to 49.9% of those reaching the office-block ballot. Similarly, 49.8% of those who reached the office-block ballot voted in at least 3 contests, compared to only 42.6% of those receiving a party-column ballot. Both differences were highly statistically significant. But even though the party-column ballot was associated with fewer votes cast, there was no difference in the amount of time it took respondents to finish the study, meaning that this failure to complete the ballot did not even improve the speed of responses. The median party-column respondent spent 115.5 seconds on the study versus 114.6 for the average individual completing the office-block format, a difference that was far from significant.

167. This indicates, then that individuals are less enthusiastic about filling out party column ballots than they are about completing office block ballots.

What should we make of this evidence?

168. This study specifically and the report I present more generally are focused on the question of how the features of New Jersey's primary ballots might be expected to influence voters. As I established in the first part of this report, there are strong reasons to believe that psychological nudges and choice architecture tendencies will influence New Jersey voters and evidence from elections elsewhere has shown that voters are regularly influenced by features of ballot design that reflect those tendencies. But despite the fact that these lead to clear expectations in New Jersey, the uniqueness of

the New Jersey primary ballot leaves open a series of questions about the impact of some of the particular features of this ballot. The new data collection presented here clarifies the impact of these design decisions on real New Jersey voters for candidates running in an upcoming election.

169. The results of the current experiment reveal exactly what proponents of good ballot design would counsel. When New Jersey voters are presented with a ballot that makes it relatively easy to find and identify candidates who receive a particular set of endorsements and privileges the position of those candidates, voters are strongly nudged toward selecting those same candidates. While it may be possible in some cases for a very strong nominee to overcome these collective influences, it appears to be no simple feat. In the upcoming elections for Senate and House, receiving both a party line and a first position benefit has the potential to render viable candidates who would otherwise be far behind in the polls. Indeed, that Dr. Rubin (2023) has identified so few cases where party line candidates lost their contests is completely in line with the large biases we find here.

170. These design decisions have implications for various sets of actors. Candidates are heavily encouraged to seek the county party endorsement (even if they would not pursue it otherwise), to bracket with anyone who might be in an earlier pivot-point office (even if they do not actually share a faction or policy position), and to maintain this system whenever they expect to receive its benefits. Primary voters will, as a function of the architectures of choice presented, find it comparatively easy to vote for candidates endorsed by the party (and placed on the county line) and more difficult to

vote for candidates who do not receive that endorsement. This will have the net result of encouraging individuals who are ambivalent between candidates and those who are undecided to behave in consistent ways that thus shift the results of the election away from voters' preferences and towards the endorsees. It will also lead to more undervoting among voters with particular sets of preferences. Collectively, then, the party-column ballot format changes the election choices voters make to ones that are more heavily shaped by party insiders and less by voter preferences. And by maintaining the party-column system, the state is endorsing these decisions.

171. The effects of many of the ballot placement decisions were large, yielding sizeable impacts on election outcomes. While similarly large effects should be expected, I caution against treating the effects from the experiment as measurements of the exact magnitude of these biases on real ballots. Experiments, of course, are never a perfect simulation. In real elections, there are reasons to think that many of these effects could be larger or smaller than what we observe. By only considering four (4) contests, we shrink the weight of the line compared to what frequently appears on real ballots. By leaving county-level races uncontested and local races off the ballot, we do not attempt to assess the impact of the line where voters are at their least informed and these effects would presumably be most consequential. We also limited our design to a five (5) column ballot where relegation to the worst excesses of ballot Siberia were functionally impossible. At the same time, the study was conducted well before the election, when voters may know less about our candidates than they would likely learn by Election Day and where some of the nominees for various offices may be different.

Indeed, one of the candidates, Greg Vartan, suspended his campaign shortly before the end of the study; neither he nor Jason Blazakis (who dropped out after the study was completed) will appear on the Election Day ballot. This early timing was not only necessary for evaluating potential impacts before the election but also was critical for rendering plausible the placement of various candidates on the county line. It also assuredly meant that our results will not perfectly reflect voter decision-making on Election Day.

172. In practice, the question is not one of whether there are differences between a simulated election and a real one but instead whether the effects observed reflect processes that would be expected to occur both in a study like the one I conducted and in the voting booth. Here, because the biases we observe reflect well-established psychological tendencies, a strong contraindication would be needed to think that what we see in this survey experiment would disappear completely when voters get to the polls. While we can easily posit why one or another effect might get bigger or smaller, we know from a large body of research that voters sometimes reach the polling booth having only finalized some of their choices and that the ballot can and does guide behavior. The direction of that guidance is likely to be consistent with our results even if its exact magnitude is difficult to forecast.

173. The other challenge posed by the design of New Jersey's primary ballots is that it is not possible to fully disentangle the effects of the line, of endorsements, of bracketing, of being listed toward the left side of the ballot, and of voter confusion at the same time while presenting voters with ballots that resemble those they could

actually receive. It would be nice to be able to completely disaggregate these errors and to pinpoint the features of New Jersey primary ballots that appear to have the largest impact on both voters and election results. It is also not really necessary, as the question of whether or not these biases are appropriate does not require us to carefully isolate each effect.

Overall study results

174. The study presented in the preceding sections directly tested whether the psychological benefits we would expect from the literature indeed manifest when voters encounter the party-column style ballots used in New Jersey primary elections. Both the theories and the concerns they raise are supported with empirical evidence; indeed the magnitude of the effects is enormous. In this section, I review the magnitudes of these (consistently statistically significant) effects and discuss what they imply about how voters are likely to behave in June.

175. When Senate and House candidates were placed on the county line in our study, they doubled their vote shares, receiving an average of 47.4% of voters' preferences when given the line versus 22.7% otherwise, a 24.7 percentage point improvement in performance.

176. When Senate and House candidates were placed in the first column, a phenomenon also made more common for party line candidates due to New Jersey's primary election rules, they again performed far better, receiving 43.4% of voters' choices versus 24.5% otherwise, an improvement of 18.9 percentage points.

177. The New Jersey ballot design also induced voter straightlining and disadvantaged unbracketed candidates in ways that further reinforced the benefits of candidates receiving the county line.

178. And the impacts we observed for the party-column style ballots used in New Jersey were both larger than and distinct from those observed on office-block ballots.

179. Finally, we find that the party-column style primary ballot seems to have resulted in people completing their ballots less often than they did with an office-block ballot, an effect that suggests that a ballot change would yield not only a reduction in bias, but also an improved ease of administration.

180. In the most recent set of primary elections for U.S. House, Senate, and Governor in New Jersey, three (3) were decided by margins of fewer than five percentage points and eight (8) were decided by less than the differential we observed for the average county line effect. Most of the primary contests decided by larger margins were either uncontested and/or included an incumbent candidate.[45] That we are observing ballot design impacts of a magnitude that could have altered many recent high-profile contests indicates that the biases introduced by this format are likely to matter not only for candidate performance, but also in shaping the set of nominees. Indeed, it is hard to imagine that effects of the magnitude we observe here would magically become

[45] This analysis examined all US House contests from 2022, the Gubernatorial contests from 2021, and the Senate contests from 2020. Contests decided by <5 percentage points included a Senate primary in 2020 and primaries for the 5th and 11th Congressional districts in 2022. Additional contests decided by less than the 24.7 percentage point differential included a primary for Governor in 2021, and primaries for the 2nd, 3rd, 4th, 5th, and 7th Congressional districts in 2022. Of the 28 total primary elections, 8 were uncontested and 6 more featured incumbents, who typically win primaries by large margins regardless of ballot format (though one incumbent did win by a smaller margin than the county line effect estimate from this study).

inconsequential when voters receive the final versions of the ballot in June. Elections are often decided by relatively small margins.

181. Further, because this body of evidence reflects well established aspects of human psychology, anyone claiming that these biases would not be present in some circumstance would need to establish a compelling explanation not only that the sizes of the effects might change but that the psychological forces leading to the biases we observe would somehow become irrelevant.

Conclusions

182. Based on my review of the literatures on cognitive bias, voter behaviors, and the impacts of ballot design and the results of the original research conducted for this case, it is my opinion that the placement of candidates on New Jersey's primary ballots yields sizable benefits to some candidates over others that would not be present for other ballot designs, even those that convey the same substantive information. This benefit serves both as an encouragement for candidates to associate with other candidates regardless of policy positions and biases the results of elections away from some candidates and toward others.

183. We have every reason to expect the benefits conferred by New Jersey's primary ballot design will be present in the upcoming June 4th primary elections, where our study results reveal competitive Senate and House races poised to be decided by margins far smaller than what we observe from the effects of candidate placement decisions induced by the design of the New Jersey ballot. Even if candidates who benefit

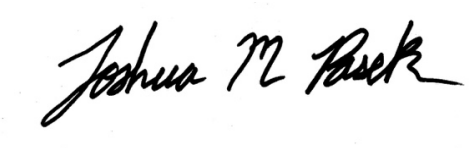
from these placements win their elections by double-digit margins, there is a possibility that the party line effect could have been outcome determinative, meaning that candidates and the public can reasonably question whether the candidate would have won had the counties employed a different ballot design.

184. Finally, the use of a ballot that is known to influence voters in systematic ways has critical implications for the legitimacy of elections. Candidates and voters are likely to perceive election results to be of questionable legitimacy if ballot designs are subject to known biases that have the potential to influence the contest. Candidates are likely to challenge both the ballot positions they are assigned and the outcomes of elections so long as the current system remains in place (Beazley 2013).

185. As the events of January 6th, 2021 made stark, any perceived illegitimacy of elections by the public can be dangerous. The use of the county line is both empirically unfair, as I demonstrate here, and feels that way to voters. Indeed, in a recent Fairleigh Dickinson University poll, two-thirds of New Jersey residents reported that "Parties shouldn't have control" to favor candidates with preferential placement on the primary ballot (Cassino 2022). Voters apparently perceive the system as unfair, which makes sense, as these conclusions are supported by the data. Indeed, the magnitude of the biases we observe both individually and cumulatively amounts to an enormous handicap in favor of candidates who are featured on the county line.

I certify that the opinions and analyses presented herein are based on my education, training, and expertise. The foregoing analysis is accurate to my knowledge, information, and belief.

Joshua M Pasek



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ACADEMIC APPOINTMENTS

University of Michigan — Ann Arbor, MI

Associate Professor — 2018-Present
Assistant Professor — 2011-2018
Department of Communication Studies, College of Literature, Science, and the Arts

Associate Professor (by courtesy) — 2020-Present
Department of Political Science, College of Literature, Science, and the Arts

Faculty Associate — 2011-Present
Center for Political Studies, Institute for Social Research

Associate Director — 2022-2023
Core Faculty — 2016-Present
Faculty Affiliate — 2014-Present
Michigan Institute for Data Science (MIDAS)

University of Pennsylvania — Philadelphia, PA

Distinguished University Fellow in Institutions of Democracy — 2020
Distinguished Research Fellow — 2022-Present
Annenberg Public Policy Center

EDUCATION

Stanford University — Stanford, CA
Doctor of Philosophy in Communication — June 2011

Stanford University — Stanford, CA
Master of Arts in Political Science — June 2009

Methods of Analysis Program in the Social Sciences — Stanford, CA
Graduate Certificate in Social Science Methodology — Spring 2008

Summer Institute in Political Psychology — Stanford, CA
Certificate in Political Psychology — Summer 2007

Pomona College — Claremont, CA
Bachelor of Arts, Cum Laude — May 2005

MANUSCRIPTS

Bode, L., Budak, C., Ladd, J. M., Pasek, J., Singh, L. O., Soroka, S. N., & Traugott, M. W. (Under Contract). *Presidential Campaigns in the New Media Environment: Lessons from the Trump Elections*. Elements Series. New York. Cambridge University Press.

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Bode, L., Budak, C., Ladd, J. M., Newport, F., Pasek, J., Singh, L. O., Soroka, S. N., & Traugott, M. W. (2020). *Words that Matter: How the News and Social Media Shaped the 2016 Presidential Election*. Washington, D.C., Brookings Institution Press.

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(†graduate student co-author, ††undergraduate co-author at time of project initiation)

Levendusky, M., Patterson, S., Margolis, M., Pasek, J., Winneg, K., Jamieson, K.H. (in press). Has the Supreme Court Become Just Another Political Branch? Public Perceptions of Court Approval and Legitimacy in a Post-Dobbs World. *Science Advances*.

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†Haber, J., Singh, L., Budak, C., Pasek, J., Balan, M., †Churchill, R., Callahan, R., & Kawintiranon. (2021). Lies and presidential debates: How political misinformation spread across media streams during the 2020 election. *Harvard Kennedy School Misinformation Review, 2*(6).

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Conrad, F. G., Gagnon-Bartsch, J. A., †Ferg, R. A., Schober, M. F., Pasek, J., & †Hou, E. (2021). Social Media as an Alternative to Surveys of Opinions about the Economy. *Social Science Computer Review, 39*(4), 489-508.

Holbert, R. L., †Dias, N. C., Hardy, B. W., Jamieson, K. H., Levendusky, M. S., Renninger, A. S., Romer, D., Winneg, K. M., & Pasek, J. (2021). Exploring the Role of Media Use Within an Integrated Behavioral Model (IBM) Approach to Vote Likelihood. *American Behavioral Scientist, 65* (3), 412-431.

†Chinn, S., & Pasek, J. (2021). Some Deficits and Some Misperceptions: Linking Partisanship with Climate Change Cognitions. *International Journal of Public Opinion Research, 33*(2), 235-254.

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Pasek, J., Tahk, A., †Lelkes, Y., Krosnick, J. A., Payne, B. K., †Akhtar, O., & Tompson, T. (2009). Determinants of Turnout and Candidate Choice in the 2008 U.S. Presidential Election: Illuminating the Impact of Racial Prejudice and Other Considerations. *Public Opinion Quarterly, 73*(5), 943-994.

Pasek, J., More, E., & Romer, D. (2009). Realizing the Social Internet? Online Social Networking Meets Offline Civic Engagement. *Journal of Information Technology and Politics, 6*(3/4), 197-215.

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Pasek, J., †Feldman, L., Romer, D., & Jamieson, K. H. (2008). The School as an Incubator of

Democratic Participation: Building Long-Term Political Efficacy with Civic Education. *Journal of Applied Developmental Science, 12*(1), 26-37.

†Feldman, L., Pasek, J., Romer, D., & Jamieson, K. H. (2007). Identifying Best Practices in Civic Education: Lessons From Student Voices Philadelphia. *American Journal of Education, 114*(1), 75-100.

Pasek, J., †Kenski, K., Romer, D., & Jamieson K. H. (2006). America's Youth and Community Engagement: How Use of Mass Media is Related to Political Knowledge and Civic Activity Among 14 to 22 Year Olds. *Communication Research, 33*(3), 115-135.

OTHER PEER REVIEWED PUBLICATIONS

†Moore, S., & Pasek, J. (In Press). What is the Unique Contribution of Implicit Measures in Predicting Political Choices? In Krosnick, J. A., Stark, T. H., & Scott, A. L. (Eds.), *The Cambridge Handbook of Implicit Bias and Racism*. Cambridge University Press.

Pasek, J., Singh, L. O., †Wei, Y., Soroka, S. N., Ladd, J. M., Traugott, M. W., Budak, C., Bode, L., & Newport, F. (2020). Attention to Campaign Events: Do Twitter and Self-Report Metrics Tell the Same Story? In Hill, C., Biemer, P. P., Buskirk, T. D., Japec, L., Kirchner, A., Kolenikov, S., & Lyberg, L. E. (Eds.), *Big Data Meets Survey Science: A Collection of Innovative Methods*) Wiley.

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Pasek, J. (2018). Linking Knowledge Networks Web Panel Data with External Data. In Vannette, D., & Krosnick, J. A. (Eds.), *The Palgrave Handbook of Survey Research*. Palgrave Macmillan.

†Kuru, O., & Pasek, J. (2016). Comparing Social Media Use and Political Engagement: Toward a Valid Measurement Strategy. In Richardson, G.W. (ed.), *Social Media and Politics: A New Way to Participate in the Political Process*. Santa Barbara, CA: Praeger. 243-276.

Pasek, J., & Ahn, S. J. (2013). Experiments. *Oxford Bibliographies Online: Communication*. Available from: http://dx.doi.org/10.1093/OBO/9780199756841-0138

Pasek, J., & Krosnick, J. A. (2010). Optimizing Survey Questionnaire Design in Political Science: Insights From Psychology. In J. Leighley (Ed.), *Oxford Handbook of American Elections and Political Behavior*. (pp. 27-50). Oxford: Oxford University Press.

ADDITIONAL PUBLICATIONS

Pasek, J. & Lee, S. (2022). Integrating Data Across Sources. In Rebstock, D., Winters, T., & Fine, E. (Eds.), *Measurement and Analysis of Public Opinion: An Analytic Framework*. Washington, D.C.: National Academies Press.

†Hegland, A., †Zhang, A., †Zichettella, B., & Pasek, J. (2022). A Partisan Pandemic: How COVID-19 Was Primed for Polarization. *ANNALS of the American Academy of Political and Social Science, 700*(1) 55-72.

†Li, G., Pasek, J., Krosnick, J.A., Stark, T.H., Agiesta, J.,Sood, G., Tompson, T. & Gross, W. (2022). Americans' Attitudes toward the Affordable Care Act: What Role Do Beliefs Play? *ANNALS of American Academy of Social and Political Science, 700*(1) 41-54.

Jensen, B. et al. (2021). Analysis and Visualization Considerations for Quantitative Social Science Research Using Social Media Data. Available from: https://psyarxiv.com/p2j5z/download/?format=pdf.

Budak, C. et al. (2021). Modeling Considerations for Quantitative Social Science Research Using Social Media Data. White Paper. Available from: https://psyarxiv.com/3e2ux/download/?format=pdf.

Mneimneh, Z. et al. (2021). Data Acquisition, Sampling, and Data Preparation Considerations for Quantitative Social Science Research Using Social Media Data. White Paper. Available from: https://psyarxiv.com/k6vyj/download/?format=pdf.

Ladd, J. et al. (2020). Measurement Considerations for Quantitative Social Science Research. Using Social Media Data. White Paper for NSF Grant. Available from: https://psyarxiv.com/ga6nc/download.

Singh, L. et al. (2020). Study Designs for Quantitative Social Science Research Using Social Media. White Paper for NSF Grant. Available from: https://psyarxiv.com/zp8q2/download/.

Singh, L. et al. (2020). Data Blending. White Paper. Available from: https://mccourt.georgetown.edu/wp-content/uploads/2020/05/MDI-Data-Blending-White-Paper-April2020.pdf.

Pasek, J., & Traugott, M. (Sep. 26, 2018). You can trust the polls in 2018, if you read them carefully. *The Conversation*. Available from: https://theconversation.com/you-can-trust-the-polls-in-2018-if-you-read-them-carefully-101424.

†Kuru, O., Pasek, J., & Traugott, M. (Oct. 20, 2017). Journalists Should Stop Highlighting Individual Polls And Focus On Polling Averages. *Huffington Post*. Available from: https://www.huffingtonpost.com/entry/journalists-polling-averages_us_59dbaa19e4b0b34afa5b37a7.

†Kuru, O., Pasek, J., & Traugott, M. (Oct. 5, 2016). If My Candidate is Behind, the Poll Must be Biased. *Washington Post Monkey Cage Blog*. Available from: https://www.washingtonpost.com/news/monkey-cage/wp/2016/10/05/if-my-candidate-is-behind-the-poll-must-be-biased/.

Pasek, J. (Feb. 16, 2016). Many Americans' Racially and Partisan Motivated Dislike for Obama Means they Doubt his Legitimacy as President. *The LSE US Centre's daily blog on American Politics and Policy*. Available from: http://bit.ly/1PCruoM.

Pasek, J. (2015). Roger Tourangeau et al., eds. Hard-to-Survey Populations. Cambridge, UK: Cambridge University Press. 2014. 648 pp. $120.00 (cloth). *Public Opinion Quarterly 79*(2) 626-628.

Pasek, J., †Jefferson, H., †Neuner, F., & Brown, K. (2014). Race Defines Americans' Views on Ferguson Shooting. *Detroit Free Press*. (Nov. 17, 2014). Available from: http://www.freep.com/story/opinion/contributors/2014/11/17/ferguson-shooting-grand-jury-police-cop-michael-brown/19179241/.

Murphy, J., Link, M., Childs, J. H., Tesfaye, C. L., Dean, E., Stern, M., Pasek, J., Cohen, J., Callegaro, M., & Harwood, P. (2014). Social Media in Public Opinion Research: Report of the AAPOR Task Force on Emerging Technologies in Public Opinion Research. Washington, DC: *American Association for Public Opinion Research*. Available from: http://www.aapor.org/Social_Media_Task_Force_Report.htm.

Pasek, J. (2013). Maybe the Same Prejudice. Definitely Not Less. *New York Times.* (Nov. 21, 2013). Available from: http://www.nytimes.com/roomfordebate/2013/11/20/racism-in-the-age-of-obama/definitely-not-less-racial-prejudice-since-obamas-election.

Pasek, J. (2012). Writing the Empirical Social Science Research Paper: A Guide for the Perplexed. *Psychology Teacher Network.* Available from: http://www.apa.org/education/undergrad/empirical-social-science.pdf.

Pasek, J., & Krosnick, J. A. (2010). Measuring Intent to Participate and Participation in the 2010 Census and Their Correlates and Trends: Comparisons of RDD Telephone and Non-probability Sample Internet Survey Data. *Statistical Research Division Study Series: Survey Methodology.* (#2010-15). Washington, DC: U.S. Census Bureau. Available From: http://www.census.gov/srd/papers/pdf/ssm2010-15.pdf

Pasek, J., More, E., & Hargittai, E. (2009). Some clarifications on the Facebook-GPA study and Karpinski's response. *First Monday, 14*(4).

WORKING PAPERS

Singh, L., Bao, L., Bode, L., Budak, C., Pasek, J., Raghunathan, T., Traugott, M., Wang, Y., Wycoff, N. (Revise and Resubmit at *NPJ Vaccines*). Vaccine Hesitancy: Understanding Who Changes Their Mind and Why.

Pesch, A., Todaro, R., †Piper, D., Pasek, J., Evans, N., Toltzis, N., Golinkoff, R.M., & Hirsh-Pasek, K. (Revise and Resubmit at *Mobile Media and Communication*). The social consequences of phubbing: How adult observations of phubbing impact judgments, epistemic trust, and interpersonal trust.

Singh, L., Pasek, J., Wycoff, N., Berta, K., Bode, L., Jackson, M., McPhee, C., Raghunathan, T., Traugott, M., & Turkhia, C. (Under Review). Understanding Coverage and Meaning Similarities and Differences Between Surveys and Social Media.

Stark, T., Krosnick, J. A., Pasek, J., Payne, B. K., & Tompson, T. (Reject and Resubmit at *Journal of Personality and Social Psychology*). The p Factor: Unity and Diversity in Measures of Anti-Black Prejudice.

†Gubitz, S., & Pasek, J. (Under Revision). When News Portrayals Don't Matter: Priming White Public Opinion of the Ferguson Protests.

Pasek, J. & Weeks, B. (Under Revision). Informed=Motivated? Explaining the Paradox of Knowledgeable Motivated Reasoners.

Pasek, J., Lippman, J., & Crawford, B. (In Preparation). Anatomy of a Gendered Issue: Making Sense of Sex Differences in Abortion Attitudes.

Pasek, J., Lippman, J., & Jozkowski, K. (In Preparation). It's Not That I Oppose Abortion, It's Just That I Am A Republican: Explaining Alignment Between Abortion Attitudes and Partisanship Over Time.

Pasek, J. (2016). Beyond Probability Sampling: Philosophical and Empirical Considerations for Population Inference in a World Without Benchmarks. *SSRN.* http://dx.doi.org/10.2139/ssrn.2804297.

†Stevenson, D., & Pasek, J. (2015). Privacy Concern, Trust, and Desire for Content Personalization. *SSRN.* http://dx.doi.org/10.2139/ssrn.2587541.

Pasek, J. (2009). Maligned Youth? How Exit Polls Systematically Misrepresent Youth Turnout. *SSRN*. https://ssrn.com/abstract=1451244.

Pasek, J. (2006). Fueling or Following Democracy? Analyzing the Role of Media Liberalization in Democratic Transition. *allacademic*. http://citation.allacademic.com/meta/p152541_index.html.

STATISTICAL SOFTWARE

Pasek, J. (2011-Present). weights. *Comprehensive R Archive Network*. Available from: http://cran.r-project.org/web/packages/weights/index.html.

Pasek, J. (2010-Present). anesrake: ANES Raking Implementation. *Comprehensive R Archive Network*. Available from: http://cran.r-project.org/web/packages/anesrake/index.html.

GRANTS AND AWARDS

(◇grant PI or Co-PIs)

◇Pasek, J. & †Zichettella, B. (2023). Diversity Research Award for "When Do Anti-Bias Interventions Reduce the Influence of Implicit Attitudes." *University of Michigan, Department of Communication and Media*. Ann Arbor, MI. ($5,000).

◇Pasek, J., (2022). "Simulating Interactions Between Science and Policymaking." Provost's Teaching Innovation Prize. *University of Michigan*. Ann Arbor, MI.

◇Pasek, J., ◇Jefferson, H.., & ◇Neuner, F. (2022). "Reducing Racial Polarization in Reactions to Police Use of Force: Identifying Mechanisms and Testing Interventions." *Russell Sage Foundation*. New York. ($146,215).

◇Singh, L., ◇Davis-Kean, P., et al. (2019). "Collaborative Proposal: GCR - The Future of Quantitative Research in the Social Sciences." *National Science Foundation*. Arlington, VA. ($3.4M).

◇McClelland, S. & ◇Pasek, J. (2018). "Analysis of Measures Assessing Abortion Attitudes." *Subcontract to Foundation Grant Awarded to University of Arkansas*. Omaha, NE. ($403,347). [Co-PI for subcontract]

◇Traugott, M., ◇Ragunathan, T., Bode, L., Budak, C., Davis-Keane, P., Ladd, J., Mneimneh, Z., Pasek, J., Ryan, R., Singh, L., & Soroka, S. (2016). "A Social Science Collaboration for Research on Communication and Learning based upon Big Data." *Michigan Institute for Data Science: Social Science Challenge Thrust*. Ann Arbor, MI. ($1,273,592).

†◇Kuru, O., ◇Pasek, J., & ◇Traugott, M. (2016). Short Study Program Grant for "Polls That Matter: Dynamics of Horse Race Polling and Public Evaluation of Poll Reports." *Time-Sharing Experiments for the Social Sciences (TESS)*. Washington, DC.

◇Pasek, J. (2016). Office of Research Faculty Grant for "Can Respondent Race Alter Perceptions of Events? Evidence for Racially Motivated Reasoning in Criminal Justice." *University of Michigan*. Ann Arbor, MI. ($12,500).

◇Pasek, J. (2015). Library Data Grant for "Twitter Data from Sysomos." *University of Michigan Libraries*. Ann Arbor, MI.

◇Pasek, J. (2014). Marsh Fund Grant for "2014 Panel Survey." *University of Michigan, Department of Communication Studies*. Ann Arbor, MI. ($15,000).

◇Lotz, A., ◇Pasek, J., & ◇Punathambekar, A. (2013). Gilbert Whitaker Fund Grant for "Comm

121-122." *Center for Research on Teaching and Learning*. Ann Arbor, MI. ($10,000).

◇Pasek, J. (2012). Instructional Development Fund for "Quantitative Methods Across the Social Sciences." *Center for Research on Teaching and Learning*. Ann Arbor, MI. ($500).

INVITED TALKS

Pasek, J. (2021). Assessing Polling Errors in the 2020 U.S. Presidential Election: An Examination of State-Level Panel Data. Invited talk to be presented virtually at *Royal Statistical Society*, London, UK.

Pasek, J. (2019). Knowledge, Information, and Beliefs Rethinking the concept of political knowledge. Invited talk presented at *Summer Institute in Political Psychology*, Stanford, CA.

Pasek, J. (2019). From Racial Attitudes to Political Beliefs and Behaviors. Invited talk presented at *Summer Institute in Political Psychology*, Stanford, CA.

Pasek, J. (2019). What Can Tweets Tell Us about Public Opinions? Uncovering the Data Generating Process by Linking Twitter Data with Surveys. Invited talk presented at *MIDAS Seminar*, Ann Arbor, MI.

Pasek, J. (2018). Digital Trace Data: Just Another Nonprobability Sample? Invited talk presented at *Workshop on Probability-Based and Nonprobability Survey Research*, Mannheim, Germany.

Pasek, J. (2018). Cognitive Bias Meets Information Overload: Why We Struggle to Agree on the Facts in the Contemporary Media Environment. Invited talk presented at *Pontificia Universidad Católica de Chile*, Santiago, Chile.

Pasek, J. (2018). Political Socialization in the 21st Century Media Environment: Are We Up to the Task? Invited talk presented at *2018 Latin American School for Education, Cognitive, and Neural Sciences*, San Esteban, Chile.

Pasek, J. (2018). Information Consumption in the 21st Century Media Environment: Are We Up to the Task? Keynote at *Scholar's Symposium, University of Maine, Fort Kent*, Fort Kent, ME.

Pasek, J. (2018). Information Processing in the 21st Century Media Environment: Is Humanity Up to the Task? Invited talk presented at *Research Center for Group Dynamics Winter 2018 Seminar Series: Fact and Communication in a Post-Truth World, University of Michigan*, Ann Arbor, MI.

Pasek, J. (2017). Is There Any Good News About Fake News? Invited panelist at *The Center for Information Technology & Society, UCSB*, Santa Barbara, CA.

Pasek, J. (2017). Political Socialization in the 21st Century Media Environment: Is Humanity Up to the Task? Invited talk presented at *Program for Research on Youth Development and Engagement (PRYDE) Conference*, Ann Arbor, MI.

Pasek, J. (2017). What is the Unique Contribution of Implicit Measures in Predicting Political Choices? Invited talk presented at *NSF Implicit Bias Conference, National Science Foundation*, Alexandria, VA.

Pasek, J. (2016). What R You Waiting For? A Quick and Real Time Intro to R. Invited training session at *Midwest Association for Public Opinion Research*, Chicago, IL.

Pasek, J. (2016). Can Respondent Race Alter Perceptions of Events? Biased Processing of Officer-Involved Shootings. Invited talk presented at *American Government Seminar, Georgetown University*, Washington, DC.

Pasek, J. (2016). Why Don't Tweets Consistently Track Elections? Lessons from Linking Twitter and Survey Data Streams. Invited talk presented at *New Agendas in Communication, University of Texas at Austin*, Austin, TX.

Pasek, J. (2016). Making Sense of Twitter data. Invited talk presented at *Emergent Research Series at the University Library, University of Michigan*, Ann Arbor, MI.

Pasek, J. (2016). Strategies for Tracking Media Phenomena with Twitter. Invited talk presented at *Annenberg Public Policy Center, University of Pennsylvania*, Philadelphia, PA.

Pasek, J. (2015). Big Data or Big Hype? Assessing the Conceptual and Applied Utility of Big Data Insights. Invited talk presented at *Reaching Audiences II: Media Management and Media Economics*, Lubbock, TX.

Pasek, J. (2015). Workshop in Big Data Analytics, or What Big Data are Good for ... and What They are Aot. Invited talk presented at *Reaching Audiences II: Media Management and Media Economics*, Lubbock, TX.

Pasek, J. (2015). When can we make inferences from nonprobability samples? Invited talk presented at the *JPSM/MPSM Survey Methodology Seminar Series, University of Michigan*, Ann Arbor, MI and College Park, MD.

Pasek, J. (2015). It's Not My Consensus: When Individuals Know and Reject the Scientific Majority. Invited talk presented at the *Conspiracy Theories Conference*, Coral Gables, FL.

Pasek, J. (2014). Analyzing Data from Social Media. Invited talk presented at the *Research Center for Group Dynamics Fall 2014 Seminar Series: Social Psychology in the Era of Social Media, University of Michigan*, Ann Arbor, MI.

Pasek, J. (2014). Attitudes Toward Blacks in the Obama Era. Invited talk presented at the *DC-AAPOR Public Opinion Quarterly Special Issue Conference*, Washtington, DC.

Pasek, J. (2013). The Changing Impact of Anti-Black Attitudes on Approval of Barack Obama's Job Performance and on Voting from 2008 to 2012. Invited talk presented at the conference *The Confirming U.S. Presidential Election of 2012*, Columbus, OH.

Pasek, J. (2010). Determinants of Turnout and Candidate Choice in the 2008 U.S. Presidential Election: Illuminating the Impact of Racial Prejudice and Other Considerations. Invited talk presented at the *DC-AAPOR Workshop on Understanding the 2008 Presidential Election*, Washtington, DC.

INVITED PANELIST

Artificial Intelligence in the Classroom: A Panel Discussion. *MIDAS AI in Society Forum.* University of Michigan, Ann Arbor, MI. [Moderator] 2023.

Generative AI, Composition and Creativity. *MIDAS AI in Society Forum.* University of Michigan, Ann Arbor, MI. [Moderator] 2023.

Workshop on the Analytic Framework and Its Applications. *Measurement and Analysis of Public Opinion: An Analytic Framework.* National Academies of Science, Engineering, and Medicine, Washington, D.C. 2022.

Briding the Gap Between Surveys and Social Media. *MOSAIC Kickoff Event.* Georgetown University, Washington, D.C. 2021.

Data Blending. *Massive Data Institute.* Georgetown University, Washington, D.C. 2019.

Trust & Misinformation in the Age of Social Media. Invited Panelist at *National Cancer Institute*, Rockville, MD. 2018.

PUBLIC MEDIA COLLABORATIONS

Collaboration with the Associated Press and Yahoo! News on Racial Attitudes in the 2008 Election. (with Krosnick, J. A., Lelkes, Y., Payne, K., & Tompson, T.) Select Articles From Collaboration:

- http://www.cnn.com/2008/POLITICS/09/22/race.politics/
- http://www.nydailynews.com/news/politics/poll-barack-obama-lose-percentage-points-election-day-black-article-1.322186
- https://www.nytimes.com/2008/10/05/opinion/05kristof.html

Collaboration with the Associated Press and Stanford University on Racial Attitudes in the 2012 Election. (with Krosnick, J. A., & Tompson, T.) Select Articles From Collaboration:

- https://www.usatoday.com/story/news/politics/2012/10/27/poll-black-prejudice-america/1662067/
- https://www.theguardian.com/world/2012/oct/27/racial-prejudice-worsened-obama
- https://www.npr.org/2012/10/31/164029897/is-racial-prejudice-on-the-rise
- https://opinionator.blogs.nytimes.com/2013/02/06/the-persistence-of-racial-resentment/

Collaboration with the Washington Post, Georgetown, and Survey Monkey on the 2018 Midterm Elections. (with Clement, S., Guskin, E., Blumenthal, M., & Soroka, S.) Select Articles From Collaboration:

- https://www.washingtonpost.com/politics/2018/09/17/democrats-are-twice-likely-republicans-name-trump-reason-their-pick-congressional-elections
- https://www.washingtonpost.com/politics/2018/10/17/kavanaugh-saga-reminded-republicans-big-reason-vote-november-stopping-democrats

Collaboration with CNN, Georgetown, and SSRS on the 2020 U.S. Presidential Elections. (with Agiesta, J., Sparks, G., Singh, S., Hermann, M., Soroka, S., Ladd, J., & Budak, J.) Select Articles From Collaboration:

- https://www.cnn.com/2020/08/16/politics/election-2020-polls-the-breakthrough-methodology/index.html
- https://www.cnn.com/2020/11/03/politics/the-breakthrough-coronavirus-trump-biden/index.html
- https://www.cnn.com/2020/10/08/politics/the-breakthrough-trump-biden-coronavirus-debate/index.html

SELECTED ADDITIONAL MEDIA COVERAGE

ABC News; *The Associated Press*; *The Atlantic*; *BBC*; *Business Insider*; *Christian Science Monitor*; *CNN*; *Detroit News*; *Financial Times*; *Freakonomics Blog*; *Huffington Post*; *MarketWatch*; *Michigan Daily*; *Michigan Radio*; *MLive*; *New York Times*; *PolitiFact*; *RT*; *Scientific American*; *Toronto Star*; *The Guardian*; *USA Today*; *Washington Post*; *Washington Times*.

CONFERENCE PRESENTATIONS

†Hegland, A., †Zhang, A., †Zichettella, B., & Pasek, J. (2021). A Partisan Pandemic: How COVID-19 Was Primed for Polarization. *ANNALS of the American Academy of Political and Social Science Special Issue Conference.*

Stark, T.H., Pasek, J., Gross, W., Krosnick, J., †Li, G., Sood, G., Tompson, T., Agiesta, J., Junius, D. (2021). Americans' Attitudes Toward the Affordable Care Act: Are Evaluations a Function of Beliefs About the Provisions of the Law? *ANNALS of American Academy of Social and Political Science Special Issue Conference.*

†Wang, W., Pasek, J., & Van den Bulck, J. (2021). Making Cognitive Reflection Test Robust in Online Surveys. 76th Annual Conference of the *American Association for Public Opinion Research*, Virtual.

†Li, G. M., & Pasek, J. (2021). Obamacare and Trump's Trade War: How Political Cues Influence Survey Responses. 76th Annual Conference of the *American Association for Public Opinion Research*, Virtual.

†Roden, J., & Pasek, J. (2021). Prototypicality of Alleged Sexual Harassment Victim and Perpetrator Advocates. 76th Annual Conference of the *American Association for Public Opinion Research*, Virtual.

Su, J., Pasek, J., Winneg, K., Turakhia, C., & Jamieson, K. H. (2021). Changing Response Patterns in Lockdown: Analyzing a Natural Experiment During Panel Recruitment. 76th Annual Conference of the *American Association for Public Opinion Research*, Virtual.

Winneg, K., Pasek, J., Turakhia, C., Su, J., & Jamieson, K. H. (2021). Assessing Polling Errors in the 2020 U.S. Presidential Election: An Examination of State-Level Panel Data. 76th Annual Conference of the *American Association for Public Opinion Research*, Virtual.

Pasek, J., Singh, L., Soroka, S., Agiesta, J., Traugott, M. W., Sparks, G., Budak, C., & Ladd, J. M. (2021). Assessing Polling Public Attention to Information in the 2020 U.S. Presidential Election Campaign. 76th Annual Conference of the *American Association for Public Opinion Research*, Virtual.

Pasek, J., Winneg, K., Jamieson, K. H., Holbert, R. L., Romer, D., Hardy, B., Levendusky, M., & Renninger, R. (2021). Assessing Polling Errors in the 2020 U.S. Presidential Election: An Examination of State-Level Panel Data. 76th Annual Conference of the *American Association for Public Opinion Research*, Virtual.

Conrad, F. G., Gagnon-Bartsch, J. A., †Ferg, R. A., Schober, M. F., Pasek, J., & Hou, E. (2019). Social Media as an Alternative to Surveys of Opinions about the Economy. 74th Annual Conference of the *American Association for Public Opinion Research*, Toronto, Canada.

Pasek, J., Winneg, K., Jamieson, K. H., Dombrowski, J., & Dennis, J. M. (2019). Disentangling Mode Effects and Mode Differences in Recruitment: Randomizing Survey Mode at the Margins and Testing Discontinuities. 74th Annual Conference of the *American Association for Public Opinion Research*, Toronto, Canada.

Lippman, J., Pasek, J., & Crawford, B. (2019). The Changing Bases of Abortion Attitudes: Trends among Demographic Subgroups. 74th Annual Conference of the *American Association for Public Opinion Research*, Toronto, Canada.

Pasek, J., Lippman, J., & Jozkowski, K. (2019). It's not that I Oppose Abortion, It's Just that I am a Republican: Explaining the Correspondence between Partisan Identity and Abortion Attitudes. 74th Annual Conference of the *American Association for Public Opinion Research*, Toronto, Canada.

Lippman, J., Pasek, J., Turner, R., & Lo, W-J. (2019). Extracting Common Information across Diverse Measures: Identifying the Latent Attitudes of Underlying Abortion Responses. 74th Annual Conference of the *American Association for Public Opinion Research*, Toronto, Canada.

†Li, M. & Pasek, J. (2019) Who's afraid of the Chinese dragon? How Survey Sponsorship Influences Attitude Expression in Hong Kong. 74th Annual Conference of the *American Association for Public Opinion Research*, Toronto, Canada.

†McClain, C., Kuru, O., & Pasek, J. (2018) Gauging the Horserace Buzz: How the Public Engages with Election Polls on Twitter. *BIGSURV18: Big Data Meets Survey Science*. Barcelona, Spain.

Pasek, J., Singh, L., Soroka, S. N., Ladd, J., Traugott, M., Budak, C., Bode, L. & Newport, F. When Does the Campaign Matter? Attention to Campaign Events in News, Twitter, and Public Opinion. *BIGSURV18: Big Data Meets Survey Science*. Barcelona, Spain.

Conrad, F. G., Gagnon-Barsch, J., †Ferg, R., Hou, E., Pasek, J., & Schober, M. (2018). Social Media as an Alternative to Surveys of Opinions About the Economy. *BIGSURV18: Big Data Meets Survey Science*. Barcelona, Spain.

Pasek, J., McClain, C., Newport, F., & Marken, S. (2018). Who's Tweeting About the President? What Big Survey Data Can Tell Us About Digital Traces. *BIGSURV18: Big Data Meets Survey Science*. Barcelona, Spain.

Pasek, J., Stark, T. H., Krosnick, J. A., & Tompson, T. (2018). Does Knowledge Influence Support for the ACA? A Simulation and Experiment. Annual Meeting of the *American Political Science Association*, Boston, MA.

Pasek, J. & †Chinn, S. (2018). Partisan Media and Science Knowledge. 73rd Annual Conference of the *American Association for Public Opinion Research*, Denver, CO.

Pasek, J. & Weeks, B. (2018). Informed=Motivated? Explaining the Paradox of Knowledgeable Motivated Reasoners. 73rd Annual Conference of the *American Association for Public Opinion Research*, Denver, CO.

†Kuru, O., Pasek, J., & Traugott, M. (2018). Perceptions of Elections in Repeated Exposure to Singular vs Aggregate Evidence of Public Opinion. 73rd Annual Conference of the *American Association for Public Opinion Research*, Denver, CO.

†Coles, S. & Pasek, J. (2017). The Intersection of Race and Gender in Missing Children Cases. 67th Annual Conference of the *International Communication Association*, San Diego, CA.

Pasek, J., Stark, T. H., Krosnick, J. A., & Tompson, T. (2017). How Would Better Knowledge Influence Support for the Affordable Care Act? A Simulation and Experiment. 72nd Annual Conference of the *American Association for Public Opinion Research*, New Orleans, LA.

†Kuru, O., Pasek, J., & Traugott, M. (2017). Perceptions of Polls and Voter Expectations: Competitive Poll Results, Methodology and Opinionation. 72nd Annual Conference of the *American Association for Public Opinion Research*, New Orleans, LA.

Pasek, J., †Jefferson, H. J., & †Neuner, F. G. (2017). Can Respondent Race Alter Perceptions of Events? Biased Processing of Officer-Involved Shootings. 72nd Annual Conference of the *American Association for Public Opinion Research*, New Orleans, LA.

†Neuner, F. G., †Jefferson, H. J., & Pasek, J. (2017). Unpacking the Racial Divide in Officer-Involved Shootings: What Can Reactions to Witness Statements Tell Us? Annual Meeting of the *Midwest Political Science Association*, Chicago, IL.

†Kim, D. H., & Pasek, J. (2016). Conflicts between Ideals and Practices: Young Adults' Engagement with Digital News. 41st Annual Conference of the *Midwest Association for Public Opinion Research*, Chicago, IL.

†Coles, S., & Pasek, J. (2016). Dangerous or Endangered? The Effects of Race and Gender on Support for Public Policies. 41st Annual Conference of the *Midwest Association for Public Opinion Research*, Chicago, IL.

Bode, L., Budak, C., Ladd, J. M., Messing, S., Newport, F., Pasek, J., Singh, L. O., Soroka, S. N., Traugott, M. W., & Zhu, Y. (2016). Intermedia Agenda-Setting: Using Big Data to Study Agenda-Setting and Agenda-Building on Twitter. 41st Annual Conference of the *Midwest Association for Public Opinion Research*, Chicago, IL.

†Kuru, O., Pasek, J., & Traugott, M. (2016). Perceptions of Polls and Voter Expectations: Competitive Poll Results, Methodology, and Opinionation. 41st Annual Conference of the *Midwest Association for Public Opinion Research*, Chicago, IL.

Soroka, S. N., Daku, M., †Hiaeshutter-Rice, D., & Pasek, J. (2016). Biases in Economic News Coverage: Traditional vs. Social Media. Annual Meeting of the *American Political Science Association*, Philadelphia, PA.

†Kuru, O., Pasek, J., & Traugott, M. (2016). Motivated Reasoning in the Perceived Credibility of Public Opinion Polls. Annual Meeting of the *American Political Science Association*, Philadelphia, PA.

†Jefferson, H. J., †Neuner, F. G., & Pasek, J. (2016). Ferguson in Black & White: Motivated Reasoning and Responses to Police Shootings. Annual Meeting of the *American Political Science Association*, Philadelphia, PA.

Pasek, J. (2016). Motivated Reasoning and the Sources of Scientific Illiteracy. *Annual Meeting of the American Political Science Association*, Philadelphia, PA.

Pasek, J. (2016). It's Not My Consensus: Motivated Reasoning and the Sources of Scientific Illiteracy. 71st Annual Conference of the *American Association for Public Opinion Research*, Austin, TX.

Allum, N., & Pasek, J. (2016). Do Personality Traits Moderate Recognition of the Scientic Consensus? 71st Annual Conference of the *American Association for Public Opinion Research*, Austin, TX.

Pasek, J. †Yan, H. Y., Conrad, F. G., Newport, F., & Marken, S. (2016). The Stability of Economic Correlations Over Time: Comparing Data from Gallup's Daily Tracking Poll, Michigan's Surveys of Consumers, the S&P 500 and Twitter. 71st Annual Conference of the *American Association for Public Opinion Research*, Austin, TX.

††Dailey, J. R., & Pasek, J. (2016). Tracking Candidate Favorability on Social Media: Comparing Twitter Data with a Rolling Cross-section. 71st Annual Conference of the *American Association for Public Opinion Research*, Austin, TX.

†Kuru, O., Pasek, J., & Traugott, M. (2016). Motivated Reasoning in the Perceived Credibility of Public Opinion Polls. 71st Annual Conference of the *American Association for Public Opinion Research*, Austin, TX.

†Kuru, O., Pasek, J., & Traugott, M. (2015). Motivations, Expectations, and Transparency Effects in the Public Interpretation of Poll Results. 40th Annual Conference of the *Midwest Association for Public Opinion Research*, Chicago, IL.

Pasek, J., †Hou, E., Schober, M. F., Conrad, F. G., Lampe, C., & Guggenheim, L. (2015). Using Twitter Data to Calibrate Retrospective Assessments in Surveys. 6th Conference of the *European Survey Research Association*, Reykjavik, Iceland.

Conrad, F. G., Schober, M. F., Pasek, J., Guggenheim, L., Lampe, C., & †Hou, E. (2015). A "Collective-vs-Self" Hypothesis for When Twitter and Survey Data Tell the Same Story. 6th Conference of the *European Survey Research Association*, Reykjavik, Iceland.

†Kuru, O., & Pasek, J. (2015). Meta-analysis of Facebook Studies: Civic-Political Participation, and Social Capital. Annual Meeting of the *Midwest Political Science Association*, Chicago, IL.

†Jefferson, H. J., †Neuner, F. G., & Pasek, J. (2015). Perceptions of Ferguson: A Story in Black and White. Annual Meeting of the *Midwest Political Science Association*, Chicago, IL.

†Stevenson, D. M., & Pasek, J. (2015). Privacy Concern, Trust, and Desire for Content Personalization. *TPRC 43: The 43rd Research Conference on Communication, Information and Internet Policy Paper*, Arlington, VA.

†Kuru, O., Pasek, J., & Traugott, M. (2015). Transparency, Survey Literacy and Motivated Reasoning in the Public Interpretation of Poll Results. 70th Annual Conference of the *American Association for Public Opinion Research*, Hollywood, FL.

Pasek, J., †Hou, E., Schober, M. F., Conrad, F. G., Lampe, C., & Guggenheim, L. (2015). Using Twitter Data to Calibrate Retrospective Assessments in Surveys. 70th Annual Conference of the *American Association for Public Opinion Research*, Hollywood, FL.

Conrad, F. G., Schober, M. F., Pasek, J., Guggenheim, L., Lampe, C., & †Hou, E. (2015). A "Collective-vs-Self" Hypothesis for When Twitter and Survey Data Tell the Same Story. 70th Annual Conference of the *American Association for Public Opinion Research*, Hollywood, FL.

††Wagner, E., Pasek, J., & †Stevenson, D. (2015). Linking Individuals' Twitter Data with Survey Data: Challenges and Approaches. 70th Annual Conference of the *American Association for Public Opinion Research*, Hollywood, FL.

Pasek, J. (2015). Explaining Variations in Election Surveys: Identifying Contest, Year and Election Type Trends by Combining GAM and HLM Models. 70th Annual Conference of the *American Association for Public Opinion Research*, Hollywood, FL.

†Kim, D. H., & Pasek, J. (2015). Not Living up to Our Ideals: Value-Trait Consistency in News Exposure and Democratic Citizenship. Annual Conference of the *Association for Education in Journalism and Mass Communication*. Montreal, Quebec.

Pasek, J., & †Jang, S. M. (2014). Reconsidering Agenda-Setting in the Digital Era: Evidence from Big Social Data. *12th Annual APSA Pre Conference on Political Communication*, Washington, DC.

Pasek, J., Sood, G., & Krosnick, J. A. (2014). "Certain" Gains in Measurement of Political Knowledge (and Misinformation): Using Certainty Assessments to Classify and Calibrate Responses to Information Questions. *Annual Meeting of the International Communication Association*, Seattle, WA.

Guggenheim, L., Pasek, J., Lampe, C., Schober, M. F., Conrad, F. G., ††Wagner, E., & ††Brown, L. K. (2014). Can Social Media Data Predict Survey Data? A Meta-Analytic Review of the Literature. 69th Annual Conference of the *American Association for Public Opinion Research*, Anaheim, CA.

Lampe, C., Pasek, J., Guggenheim, L., Conrad, F. G., & Schober, M. F., (2014). When Are Big Data Methods Trustworthy for Social Measurement? 69th Annual Conference of the *American Association for Public Opinion Research*, Anaheim, CA.

Pasek, J. (2014). Diverging State and Nation: Correspondence Between Statewide and National Election Surveys in 2012. 69th Annual Conference of the *American Association for Public Opinion Research*, Anaheim, CA.

†Jang, S. M., & Pasek, J. (2014). Do Social Media Amplify Public Attention? Rethinking Agenda Setting with Social Big Data. Annual Conference of the *Association for Education in Journalism and Mass Communication*. Montreal, Quebec.

†Kim, D. H., & Pasek, J. (2013). Value-Trait Consistency in News Media Exposure. 38th Annual Conference of the *Midwest Association for Public Opinion Research*, Chicago, IL.

†Kuru, O., & Pasek, J. (2013). Acquiescence Bias in Facebook Research and Implications for Predicting Political Participation. 38th Annual Conference of the *Midwest Association for Public Opinion Research*, Chicago, IL.

Pasek, J., Krosnick, J. A., & Tompson, T. (2013). The Continuing Significance of Race: Attitudes Toward African-Americans, Vote Choice, and Job Approval During the First Term of the Obama Presidency. *Annual Meeting of the American Political Science Association*, Chicago, IL.

Pasek, J., Tompson, T., Krosnick, J. A., & Stark, T. H. (2013). What Motivates a Conspiracy Theory? Birthers, Anti-Black Attitudes, and Party Sorting. *Annual Meeting of the American Political Science Association*, Chicago, IL.

†Guggenheim, L., & Pasek, J. (2013). Binders Full of Tweets: Stimulus-Response Curves in Twitter Reactions to News Events. *11th Annual American Political Science Association Preconference on Political Communication*, Chicago, IL.

†Kuru, O., & Pasek, J. (2013). Measuring Facebook Activity through Surveys. 5th Conference of the *European Survey Research Association*, Ljubljana, Slovenia.

Pasek, J., †Jang, S. M., Cobb, C., Disogra, C. A., & Dennis, J. M. (2013). Can Microtargeting Improve Survey Sampling? An Assessment of Accuracy and Bias in Consumer File Marketing Data. 5th Conference of the *European Survey Research Association*, Ljubljana, Slovenia.

Pasek, J. (2013). Beyond Probability Sampling: Philosophical and Empirical Considerations for Population Inference in a World Without Benchmarks. 5th Conference of the *European Survey Research Association*, Ljubljana, Slovenia.

Pasek, J. (2013). Toward a Standard Toolkit for Comparing Samples: Point Estimates, Relations Between Variables and Trends Over Time. 68th Annual Conference of the *American Association for Public Opinion Research*, Boston, MA.

Pasek, J., Cobb, C., DiSogra, C. A., & Dennis, J. M. (2013). Consumer File Ancillary Data and Nonresponse Adjustment: Assessing the Consistency of Estimates Across Weighting Strategies. 68th Annual Conference of the *American Association for Public Opinion Research*, Boston, MA.

Stark, T. H., Pasek, J., Tompson, T., & Krosnick, J. A. (2013). Measuring Anti-Black Racism in the U.S. 68th Annual Conference of the *American Association for Public Opinion Research*, Boston, MA.

Pasek, J., †Jang, S. M., Cobb, C., Disogra, C. A., & Dennis, J. M. (2012). How Accurate is Micro-Targeting? An Assessment of Marketing Data Bias for Political and Survey Purposes. *Annual Meeting of the American Political Science Association*, New Orleans, LA.

Pasek, J., Sood, G., Krosnick, J. A., & Tompson, T. (2012). "Certain" Gains in Measurement of Political Knowledge (and Misinformation): Using Certainty Assessments to Classify and Calibrate Responses to Information Questions. *Annual Meeting of the American Political Science Association*,

New Orleans, LA.

MacInnis, B., Krosnick, J. A., DeBell, M., Malka, A., Pasek, J., & Schneider, D. (2012). The Impact of Adding a Skeptical Counterpoint to a Persuasive Message: Perceived Consensus among Experts Mediates Changes in Beliefs and Attitudes. *Annual Meeting of the American Political Science Association*, New Orleans, LA.

Pasek, J., More, E., & Romer, D. (2012). Social Media and Political Engagement: Extending Theory and Evaluating Causal Claims with a Prospective Analysis. *Annual Meeting of the International Communication Association*, Phoenix, AZ.

Pasek, J. (2012). Is Social Media a Political Opportunity? Reconciling Social Movement Theory with Occupy Wall Street. *Annual Meeting of the International Communication Association*, Phoenix, AZ.

Pasek, J. (2012). When Twitter Predicts: Philosophical and Empirical Considerations for Population Inferences. 67th Annual Conference of the *American Association for Public Opinion Research*, Orlando, FL.

Pasek, J., †Jang, S. M., Cobb, C., Disogra, C. A., & Dennis, J. M. (2012). The Public According to Marketers: Imputing National Demographics From Marketing Data Linked to Address-Based Samples. 67th Annual Conference of the *American Association for Public Opinion Research*, Orlando, FL.

†Jang, S. M., Pasek, J., Cobb, C., Disogra, C. A., & Dennis, J. M. (2012). Sampling From the Abyss? Exploring Biases Inherent in Address-Based Sampling with Marketing Data. 67th Annual Conference of the *American Association for Public Opinion Research*, Orlando, FL.

Pasek, J., Sood, G., Krosnick, J. A., & Tompson, T. (2012). Information, Certainty, Media Use, and Attitudes About Health Care Reform. *Annual Meeting of the Midwest Political Science Association*, Chicago, IL.

Pasek, J., Tahk, A., & Krosnick, J. A. (2012). Prevalence and Moderators of the Candidate Name-Order Effect: Evidence from All Statewide General Elections in California. *Annual Meeting of the Midwest Political Science Association*, Chicago, IL.

Pasek, J., & Krosnick, J. A. (2011). Measuring Intent to Participate and Participation in the 2010 Census and Their Correlates and Trends: Comparisons of RDD Telephone and Non-probability Sample Internet Survey Data. 66th Annual Conference of the *American Association for Public Opinon Research*, Phoenix, AZ.

Pasek, J., & Krosnick, J. A. (2010). Taking a Position on Health Care: Selfish, Group Interest, and Sociotropic Determinants of Citizens' Attitudes on Proposals for Health Care Reform. *Annual Meeting of the American Political Science Association*, Washington, D.C.

Pasek, J., More, E., & Romer, D. (2010). Social Media and Political Engagement: Extending Theory and Evaluating Causal Claims With A Prospective Analysis. *Political Communication Pre-Conference for the Annual Meeting of the American Political Science Association*, Washington, D.C.

Pasek, J., DeBell, M., & Krosnick, J. A. (2010). Toward a Standardization of Survey Weights: The American National Election Studies Weighting System. 65th Annual Conference of the *American Association for Public Opinion Research*, Chicago, IL.

Pasek, J., Tompson, T., & Krosnick, J. A. (2010). Who Supports Health Care Reform? Explaining the Determinants of Support for Various Health Care Reforms. 65th Annual Conference of the *American Association for Public Opinion Research*, Chicago, IL.

Tompson, T., Pasek, J., & Krosnick, J. A. (2010). Support for Health Care Reform: It All Depends

on how you ask the Question. 65th Annual Conference of the *American Association for Public Opinion Research*, Chicago, IL.

Pasek, J. (2009). Maligned Youth? How Exit Polls Systematically Misrepresent Youth Turnout. *Annual Meeting of the American Political Science Association*, Toronto, Canada.

Krosnick, J. A., Pasek, J., ††Akhtar, O., †Lelkes, Y., Payne, B. K., & Tompson, T. (2009). The Impact of Racism on Votes in the 2008 Presidential Election: Results from the Associated Press/Yahoo News!/Stanford Survey, the Stanford MRI Survey, and the American National Election Studies. *Annual Meeting of the American Political Science Association*, Toronto, Canada.

Pasek, J., †Lelkes, Y., & Krosnick, J. A. (2009). Disaffected Democrats in the 2008 Election: What Happened to Racists and Hillary Supporters? *Elections, Public Opinion and Parties 2009*, Glasgow, UK.

Pasek, J., Krosnick, J. A., ††Akhtar, O., †Lelkes, Y., Payne, B. K., & Tompson, T. (2009). A New Approach to Simultaneous Modeling of the Causes of Turnout and Candidate Choice with Data Collected Before Elections: Insights from the Associated Press-Yahoo News-Stanford University Study. 64th Annual Conference of the *American Association for Public Opinion Research*, Hollywood, FL.

Payne, B. K., †Lelkes, Y., Krosnick, J. A., ††Akhtar, O., Pasek, J., & Tompson, T. (2009). The Effect of Implicit Prejudice on Vote Choice During the 2008 Presidential Election: Insights from the Associated Press-Yahoo News-Stanford University Study. 64th Annual Conference of the *American Association for Public Opinion Research*, Hollywood, FL.

††Akthar, O., Krosnick, J. A., †Lelkes, Y., Pasek, J., Tompson, T., & Payne, B. K. (2009). An Exploration of Forces Driving Vote Choices in the 2008 American Presidential Election: Insights from the Associated Press-Yahoo News-Stanford University Study. 64th Annual Conference of the *American Association for Public Opinion Research*, Hollywood, FL.

Pasek, J. (2008). Understanding Voter Decisions: Elections and Consumer Choice. *North American Meeting of the Association of Consumer Research*, San Francisco, CA.

Pasek, J., †Weiksner, G. M., & †Gross, W. (2008). Getting From Knowledge To Participation: The Role of Campaign-Relevant Information. *Annual Meeting of the American Political Science Association*, Boston, MA.

Pasek, J., & Krosnick, J. A. (2008). Studying Trends in Public Opinion Over Time With Probability Sample Surveys and Surveys of People Who Volunteer to do Surveys for Money. *Annual Meeting of the American Political Science Association*, Boston, MA.

Pasek, J., DeBell, M., & Krosnick, J. A. (2008). Measuring Voters' Values in the American National Election Studies. 64th Annual Conference of the *American Association for Public Opinion Research*, New Orleans, LA.

Pasek, J., More, E., & Romer, D. (2008). Online Social Networking Meets Offline Civic Engagement. *Politics: Web 2.0: An International Conference.* Royal Holloway, University of London, London, UK.

Pasek, J., & Krosnick, J. A. (2007). Trends over time in America: Probability/Telephone Vs. Non-Probability/Internet. *Cyberinfrastructure and National Election Studies: The Wivenhoe House Conference.* University of Essex, Colchester, UK.

Pasek, J. (2006). Fueling or Following Democracy? Analyzing the Role of Media Liberalization in Democratic Transition. *Annual Meeting of the American Political Science Association*, Philadelphia, PA.

Pasek, J., Kenski, K., Romer, D., & Jamieson, K. H. (2006). America's Youth and Community Engagement: How Use of Mass Media is Related to Political Knowledge and Civic Activity Among 14 to 22 Year Olds. *Annual Meeting of the International Communication Association*, Dresden, Germany.

GRANT APPLICATIONS

◇Singh, L., ◇Pasek, J., et al. (2022). "HNDS: Developing methods and tools to support the understanding of the representation and measurement properties of social media data." *National Science Foundation*. Arlington, VA. ($350,000)

◇Pasek, J., ◇Jefferson, H., & ◇Neuner, F. (2019). "How Do People Acquire and Process Political Information About Racially Charged Incidents? Examining the Roles of Social Identities and Prior Beliefs." *National Science Foundation*. Arlington, VA. ($357,360)

◇Pasek, J. (2018). "How Do Social Identities Shape Beliefs and Judgments? Examining Acquisition and Processing of Political Information About Racially Charged Incidents." *National Science Foundation*. Arlington, VA. ($488,000)

◇Low, L. K., De Vries, R., Dal Cin, S., Spector-Bagdady, K., Harris, L., & Pasek, J. (2018). "Clinical and Non Clinical Barriers to Evidence Based, Ethical and Judicious Use of Electronic Fetal Monitoring." *National Institutes of Health*. Bethesda, MD. ($3,826,309)

◇Kuru, O., ◇Pasek, J., ◇Budak, C. (2017). "Context-a-Poll: Developing a Poll Report Application for Journalists to Help Readers Interpret and Contextualize Poll Findings." *Knight Foundation*. Miami, FL.

◇Pasek, J., ◇Traugott, M., Dal Cin, S., Harris, L., Lee, S., McClelland, S., & Scott, J. (2017). "Measuring Abortion Attitudes and Opinions." *Susan Thompson Buffett Foundation*. Omaha, NE. [Finalist] ($4,933,816).

◇Low, L. K., De Vries, R., Dal Cin, S., Spector-Bagdady, K., Harris, L., Greer, S., & Pasek, J. (2015). "Clinical and Non Clinical Barriers to Evidence Based, Ethical and Judicious Use of Electronic Fetal Monitoring." *National Institutes of Health*. Bethesda, MD. ($3,691,798)

◇Low, L. K., De Vries, R., Dal Cin, S., Spector-Bagdady, K., Harris, L., Greer, S., & Pasek, J. (2015). "Clinical and Non Clinical Barriers to Evidence Based, Ethical and Judicious Use of Electronic Fetal Monitoring." *National Institutes of Health*. Bethesda, MD. ($3,756,782)

◇Pasek, J., Weeks, B., & Earl, A. (2016). "Can Group Memberships Fuel Motivated Reasoning? Identity-Driven Divergence in Factual Judgments." *National Science Foundation*. Arlington, VA. ($348,937)

◇Conrad, F. G., Lampe, C., Mei, Q., Pasek, J., Kapteyn, A., & Schober, M. F., (2016). "Collaborative Research: When Can Social Media Content Really Be Used For Social Statistics?" *National Science Foundation*. Arlington, VA. ($882,845)

◇Conrad, F. G., Lampe, C., Mei, Q., Pasek, J., Kapteyn, A., & Schober, M. F., (2016). "BIG-DATA:Collaborative Research: When Can Social Media Content Really Be Used For Social Statistics?" *National Science Foundation*. Arlington, VA. ($893,109)

◇Conrad, F. G., Lampe, C., Mei, Q., Pasek, J., Kapteyn, A., & Schober, M. F., (2014). "Collaborative Research: When Can Social Media Content Really Be Used For Social Statistics?" *National Science Foundation*. Arlington, VA. ($825,438)

◇Pasek, J., ◇Miller, J., & ◇Valentino, N. (2014). "The Conceptualization and Measurement of Deliberative Engagement." *Spencer Foundation*. Chicago, IL. ($363,652)

◇Lampe, C., Ellison, N., & Pasek, J. (2013). "HCC: Small: Contextualizing Social Media Use in the Socio-Technical Ecosystem." *National Science Foundation.* Arlington, VA. ($499,428)

STUDENT SERVICE

Dissertation Committees Sean Munson (2012); Grace YoungJoo Jeon (2014); Rebecca Ping Yu (2015); Dam Hee Kim (2017); Ozan Kuru (Chair, 2018); Steven T. Moore (2021); Alejandro Pineda (2023); Miao (Gabriel) Li (Chair; 2023); Jade Burt (2023); Edwin Wang.

Graduate Student Advising Rebecca Ping Yu; Dam Hee Kim; Ozan Kuru (Primary); Stewart Coles; Slgi (Sage) Lee; Jessica Rodden; Edwin Wang; Miao (Gabriel) Li (Primary).

Undergraduate and Masters Theses Ellen Wagner (2015); Eli Scheinholtz (2017); Erica Liao (2017); Barbara Collings (2022); Eleveny Chen (2023); Elyse Sherr (2023); Jackson Hamstra (2023); Hongyu Yu (2023).

Undergraduate Guided Research Lindsay Brown; Ellen Wagner; Eldar Hoessel; Jake Dailey; Scott Rollin; Spencer Porter; Margaret Davis.

Undergraduate Research Opportunities Program Michael Spaeth; Ju Young (Grace) Kim; Ningwei (Peggy) Xia; Diana Chen; Eldar Hoessel; Audrey Koi; Courtney Quell; David Dlein; Elyse Sherr; Logan Paeglis; Noah Zimmerman; Kayla Acton; Breah Willy; Shruti Patel, Christina Frangulian.

Other Advising John Shields (Knight-Wallace Fellow, 2017).

Postdoctoral Mentoring Julia Lippman; Lauren Guggenheim.

PROFESSIONAL SERVICE

University Foundational Course Initiative (FCI) Design Group (2017); Communication Advisory Committee (2020-2023); Library Council (2022-2024); Vice President for Communications Search Committee (2022-2023); Provosts Teaching Innovation Award Committee (2023).

Departmental - Communication and Media Foote Dissertation Award Committee (2013; 2023); Faculty Application System Technological Advisory Committee (2014); Department Parliamentarian (2015-Present); Tenure Review Committee (2019); Exeutive Committee (2021-2023); Participant Pool Coordinator (2019; 2021-Present); Political Communication Search Committee Co-Chair (2021-2022); Graduate Admissions Committee Chair (2022).

Departmental - Michigan Institute for Data Science Symposium Planning Committee (2016); Inaugural Reproducible Research Award Committee Member (2020); Symposium and Seminar Program Committee (2022-2023). Management Committee (2023-Present).

Ad Hoc Reviewer American Educational Research Journal; American Journal of Political Science; American Politics Research; American Political Science Review; British Journal of Political Science; Communication Research; Communication Methods and Measures; Computer Mediated Communication; Education Research; Elections, Public Opinion, and Parties; Evaluation Review; International Journal of Internet Science; International Journal of Public Opinion Research; Public Opinion Quarterly; Public Understanding of Science; Journal of Broadcasting and Electronic Media; Journal of Communication; Journal of Experimental Political Science; Journal of Information Technology and Politics; Journal of Media Psychology; Journal of Politics; New Media and Society; PlosONE; Political Analysis; Political Behavior; Political Communication; Research & Politics; Science; Science Communication; Survey Methods; Time-Sharing Experiments in the Social Sciences.

Panel Chair Politics: Web 2.0 (2008); APSA Political Communication Pre-Conference (2009, 2012); Midwest Political Science Association (2012); American Association for Public Opinion Research (2012); American Association for Public Opinion Research (2015, 2018); BigSurv (2018).

Discussant Midwest Political Science Association (2012); American Association for Public Opinion Research (2012, 2014); Reaching Audiences II (2015); American Political Science Association (2016); Midwest Association for Public Opinion Research (2016, 2017).

Professional Organizations Bylaws Committee Member, Political Communication Section of the American Political Science Association (2008); Associate Editor, Political Communication (2007-2008); Co-Director, Methods of Analysis Program in the Social Sciences at Stanford (2007-2010); AAPOR Emerging Technologies Task Force (2012-2014); Board Member at Large, Information, Technology, and Politics Section of the American Political Science Association (2014-2016); Software Award Committee, Information, Technology, and Politics Section of the American Political Science Association (2014-2015); MAPOR At Large Board Member and Webmaster (2015-2017; 2017-2019); Bylaws Committee Chair, Political Psychology Section of the American Political Science Association (2016-2017); Travel Award Committee, Political Communication Section of the American Political Science Association (2017); Nominations Committee Chair, Political Communication Section of the American Political Science Association (2017-2019); AAPOR Ad Hoc Committee Concerned with False Politically-Motivated Accusations against Surveys (2017-2019); Warren J. Mitofsky Innovators Award Committee (2019); AAPOR Ad Hoc Committee on Public Opinion (2019); Edelman Lifetime Award Committee Member, Political Communication Section of the American Political Science Association (2020-2021).

Editorial Board Public Opinion Quarterly (2019-Present).

Expert Advisory Board Center for Panel Survey Sciences, NORC at the University of Chicago (2023-Present).

TEACHING

Massively Open Online Courses Teach-Out Series: Fake News, Facts, and Alternative Facts (2017, 2018); Roe v. Wade Teach-Out (2022).

Undergraduate Seminars Social Media and Politics (2011, 2012, 2013); Debating Politics and Science (2011, 2017, 2018, 2019, 2021, 2022, 2023); AI in Human Communication (2023).

Graduate Seminars Quantitative Methods Across the Social Sciences (2012, 2016, 2018); Survey Practicum (2019); Social Science Theory in Communication (2021), Studying Social and Political Phenomena in 2020 (2022).

Undergraduate Lectures Quantitative Research Methods for Communication (2012, 2013, 2019, 2021; 2022); Evaluating Information and Analyzing Media I (2013-2016); Evaluating Information and Analyzing Media II (2014).

Head Teaching Assistant Summer Institute in Political Psychology (2009).

Teaching Assistant Analysis of Political Campaigns (2008); Communication Research Methods (2011); Computers and Interfaces (2010); Digital Media in Society (2009).